

FIG. 1

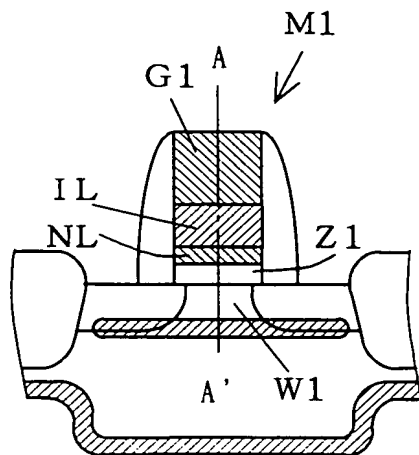


FIG. 2

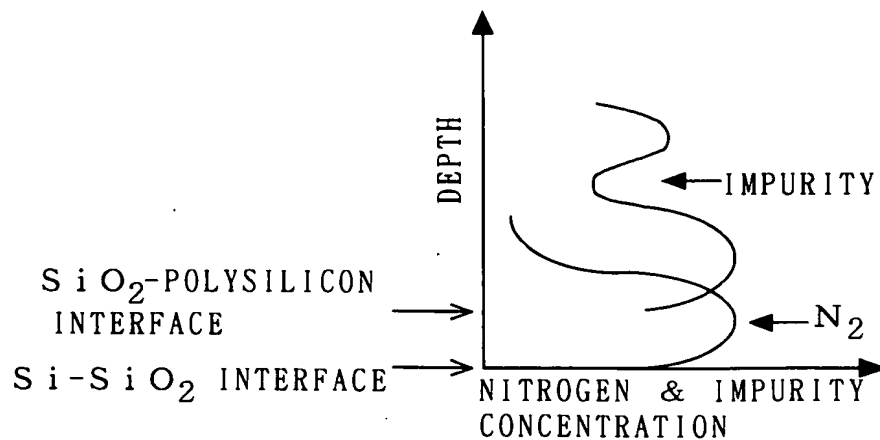


FIG. 3

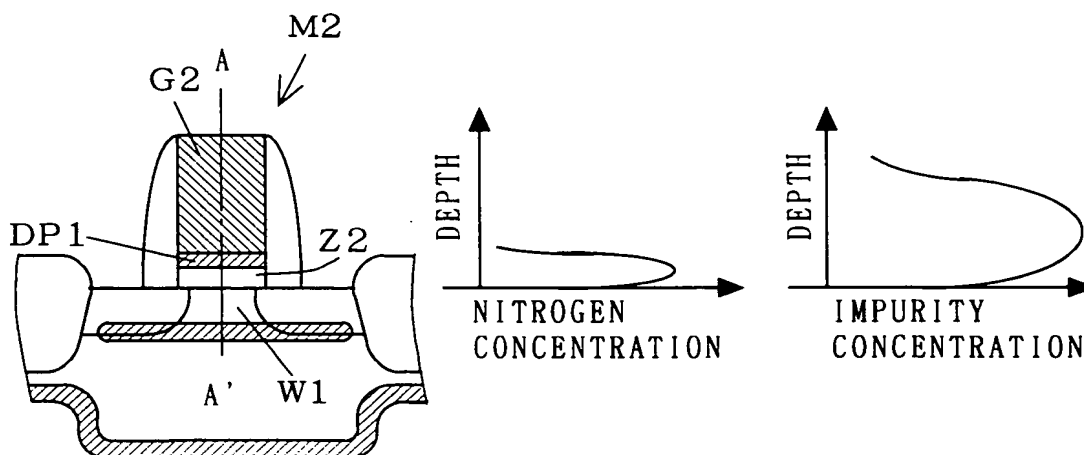


FIG. 4

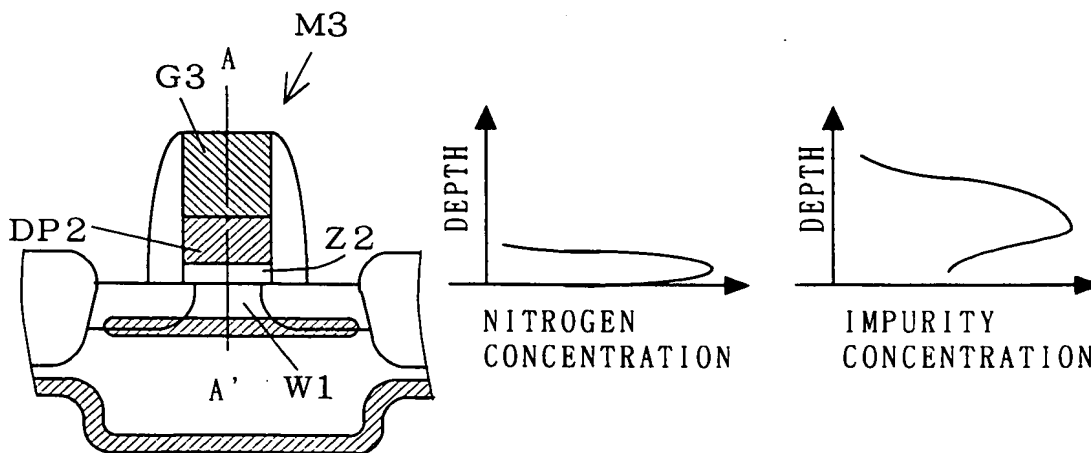


FIG. 5

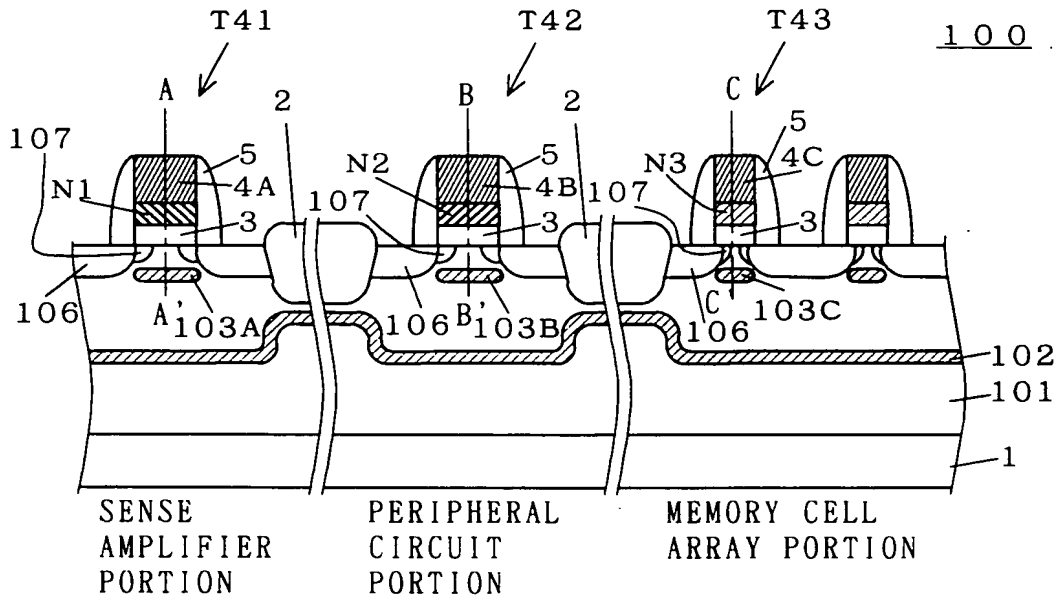


FIG. 6

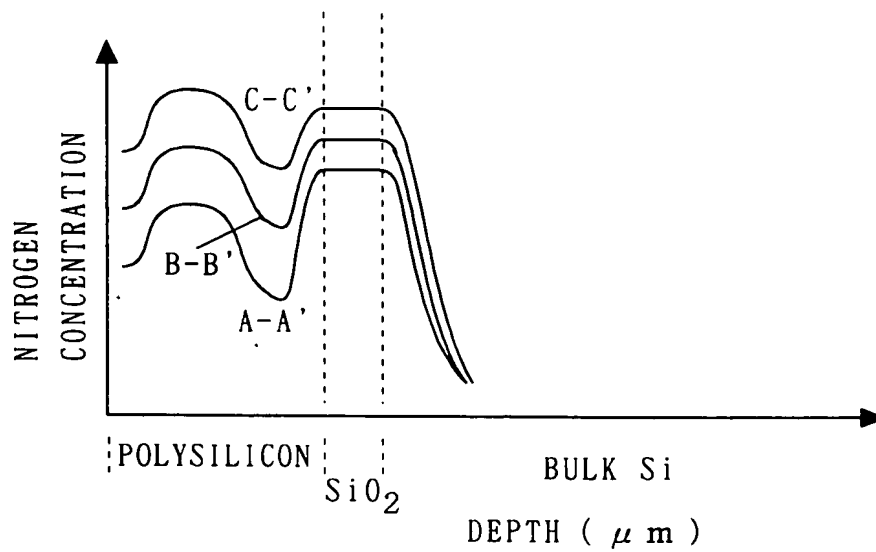


FIG. 7

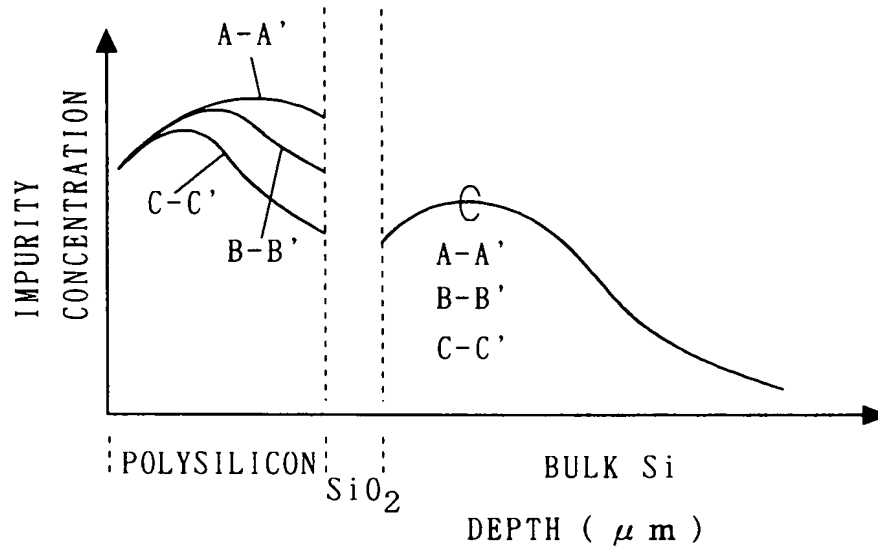


FIG. 8

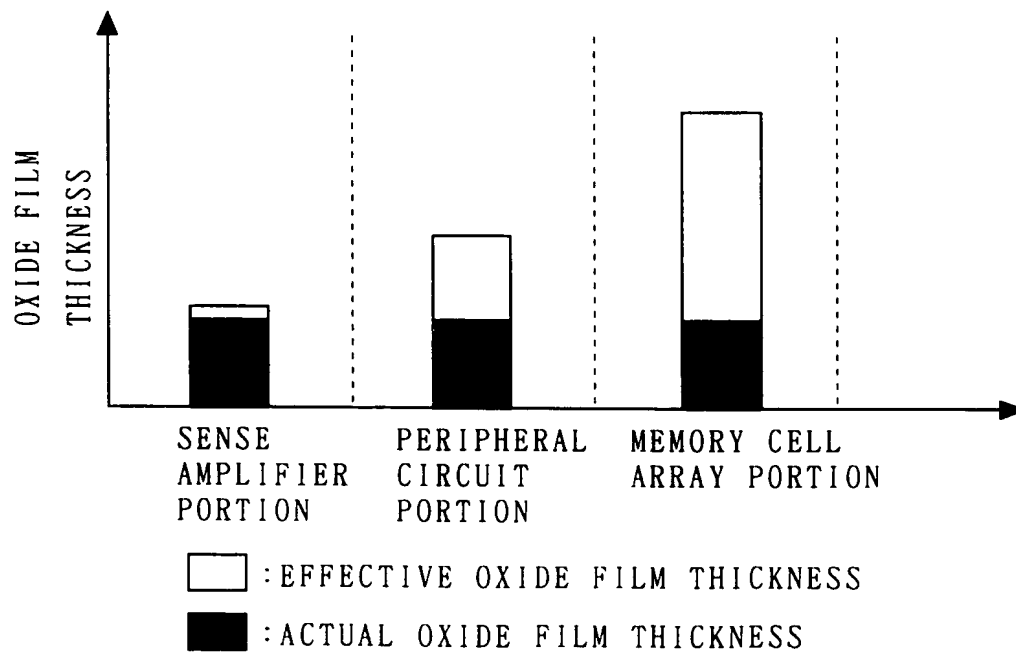


FIG. 9

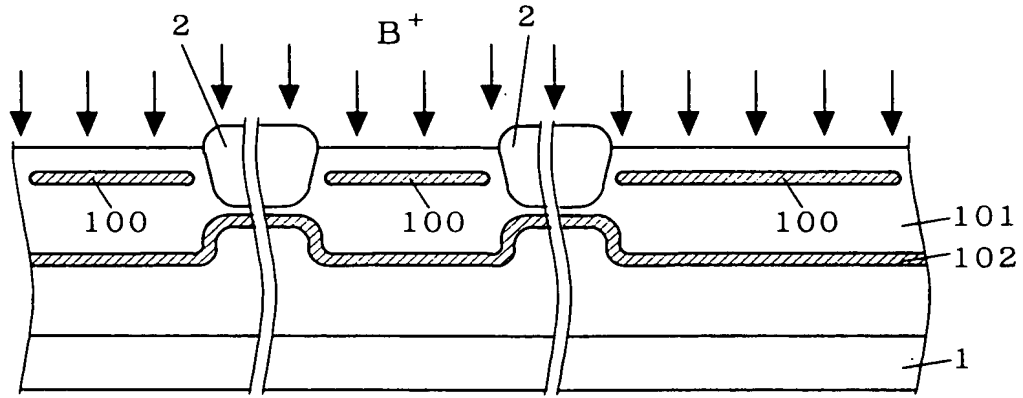


FIG. 10

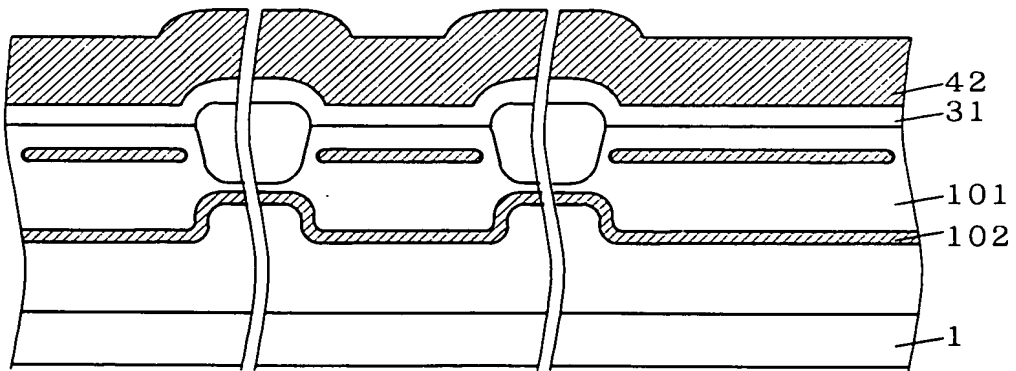


FIG. 11

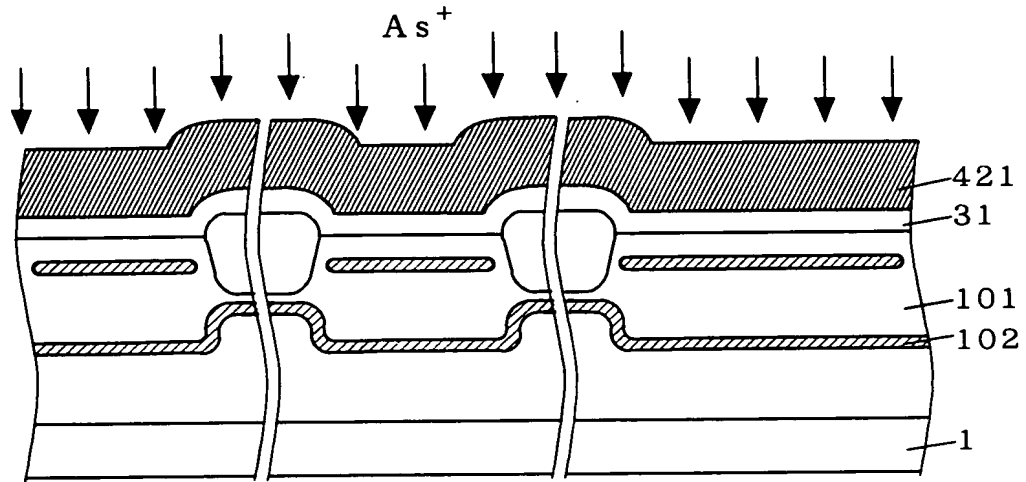


FIG. 12

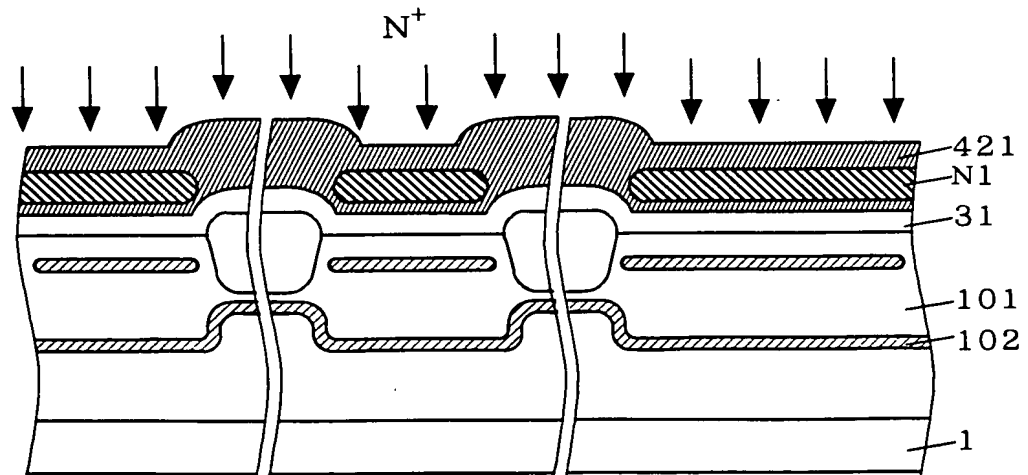


FIG. 13

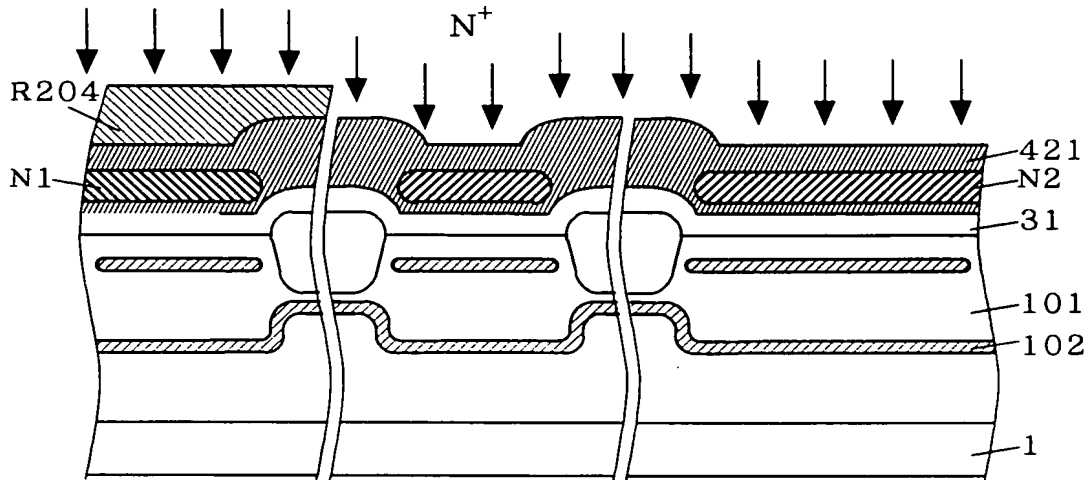
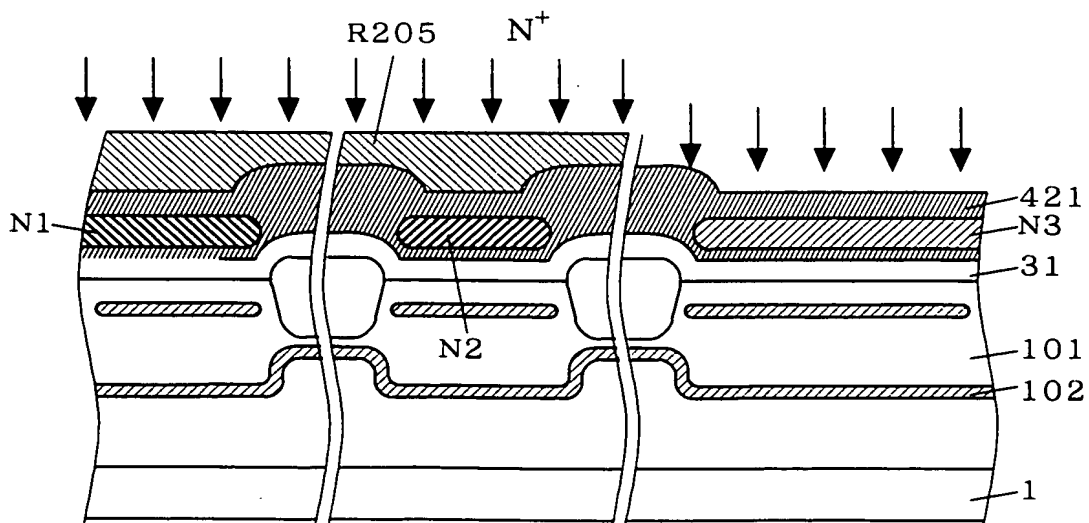


FIG. 14



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This cross-sectional diagram illustrates a semiconductor device with three distinct functional regions: a High-Voltage Resistant Portion, a Peripheral Circuit Portion, and a Memory Cell Array Portion. The device is built on a substrate 21, which includes a base layer 121 and a buried layer 122. A common source/drain layer 126 is present across all regions. In the High-Voltage Resistant Portion, a high-voltage resistant layer 127 is formed on top of the 126 layer. The Peripheral Circuit Portion features a gate stack 123 with a gate 124 and a gate oxide 125. The Memory Cell Array Portion contains a memory cell structure with a gate stack 125, a gate oxide 126, and a gate 127. The device is protected by a passivation layer 128. The regions are separated by isolation structures 129. The device is labeled with various reference numerals: 21, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200.



FIG. 17

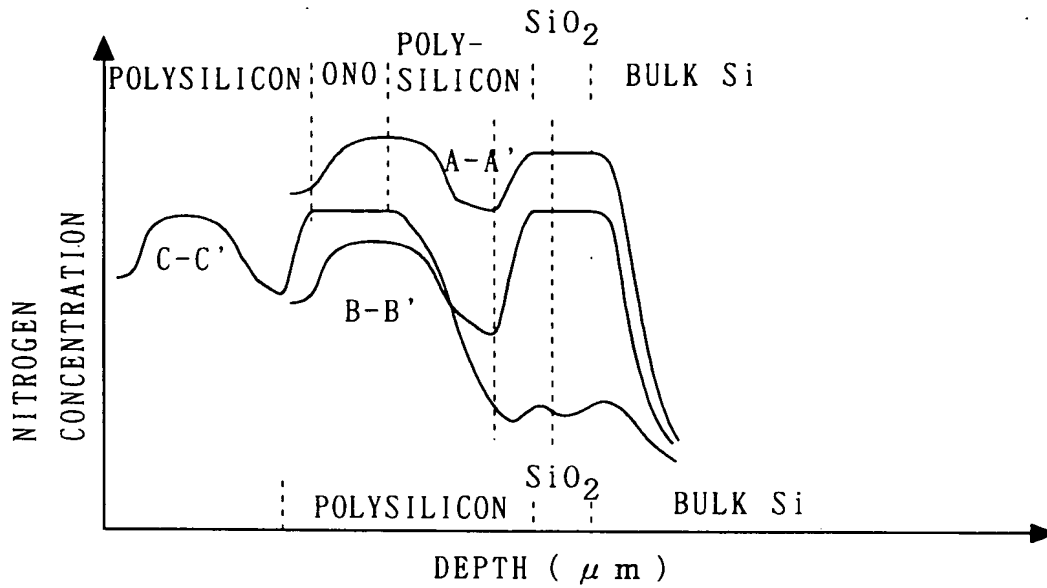


FIG. 18

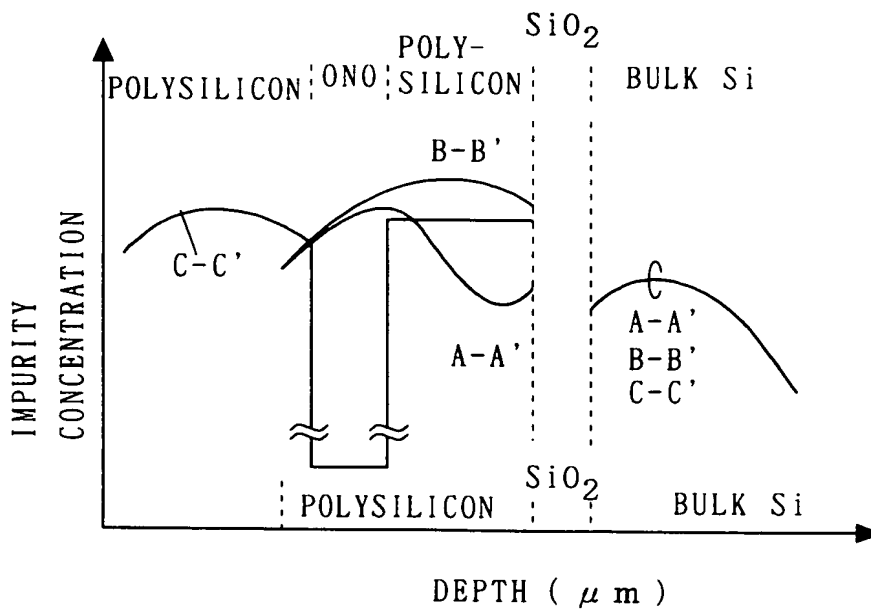


FIG. 19

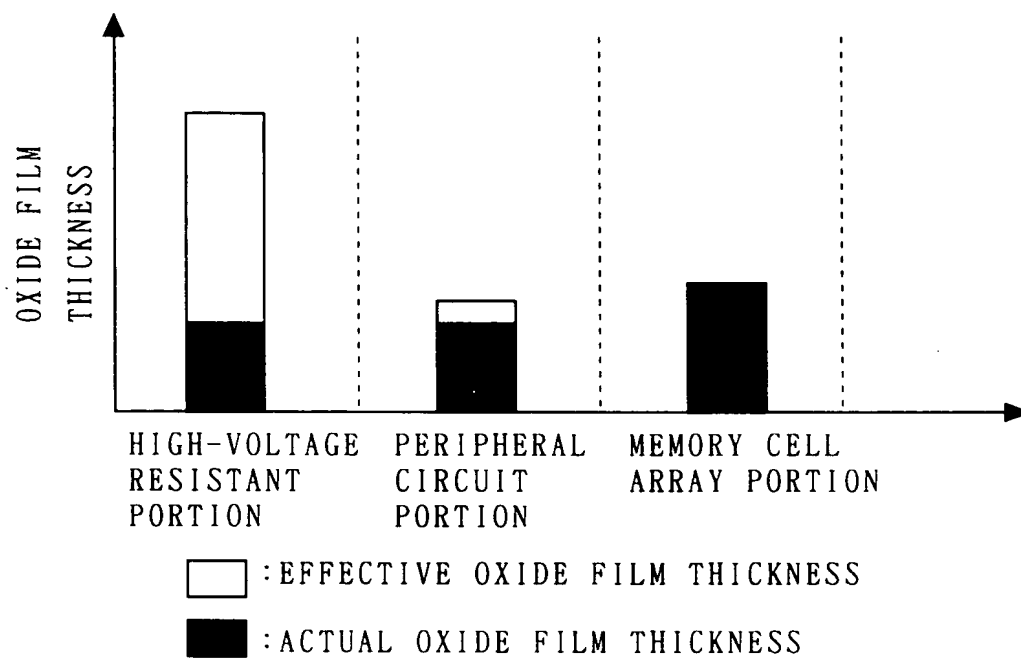
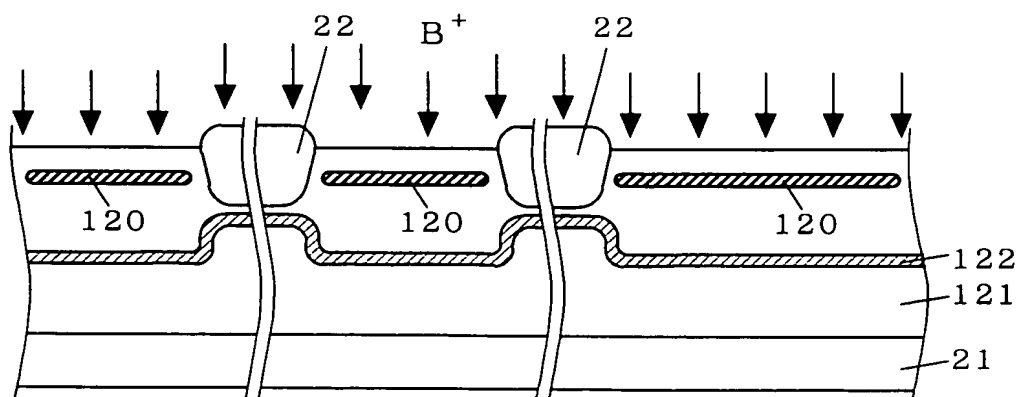
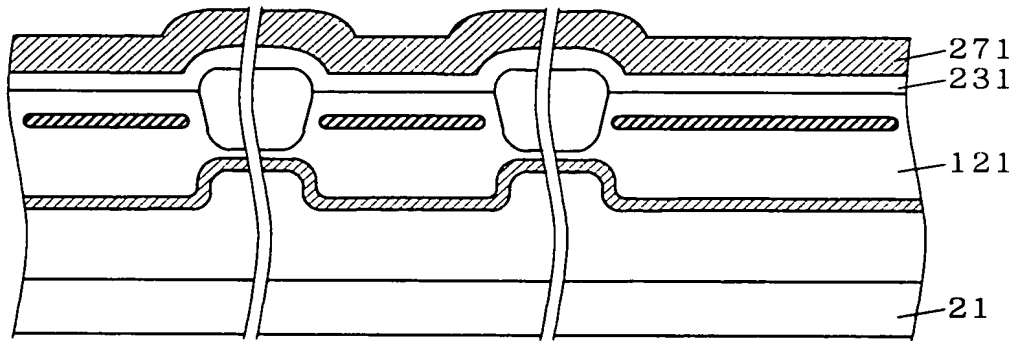


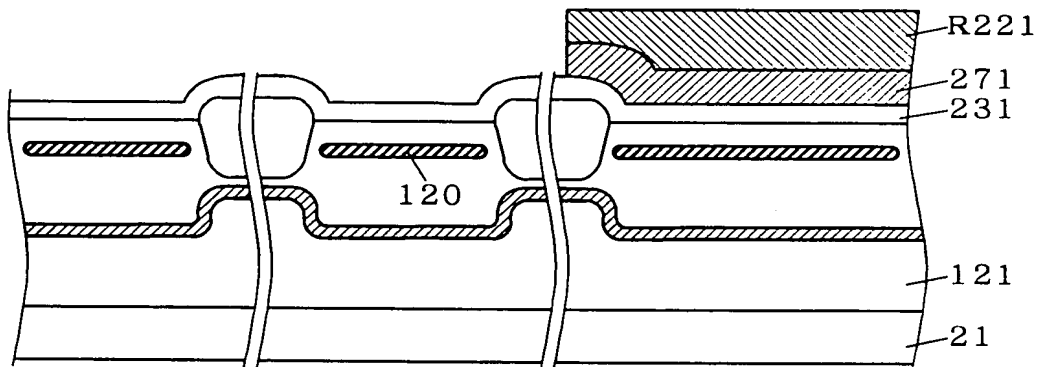
FIG. 20



F I G . 2 1



F I G . 2 2



F I G . 2 3

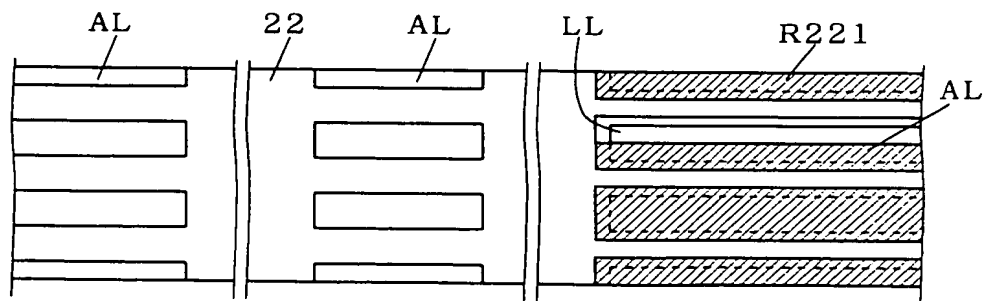


FIG. 24

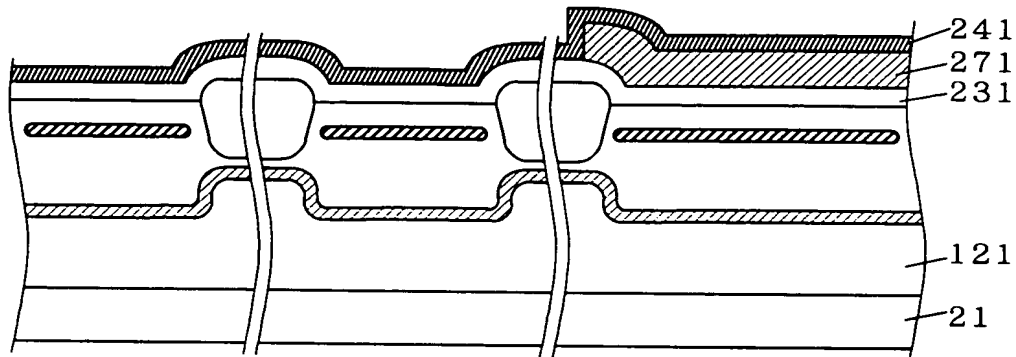


FIG. 25

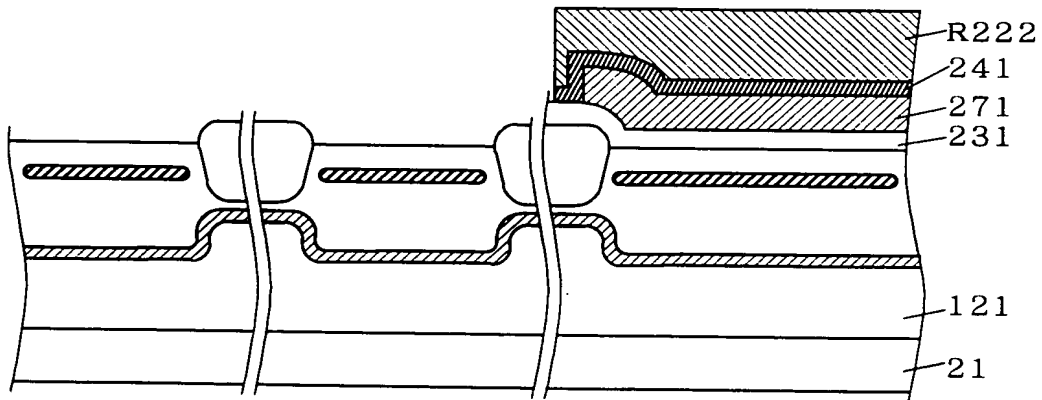


FIG. 26

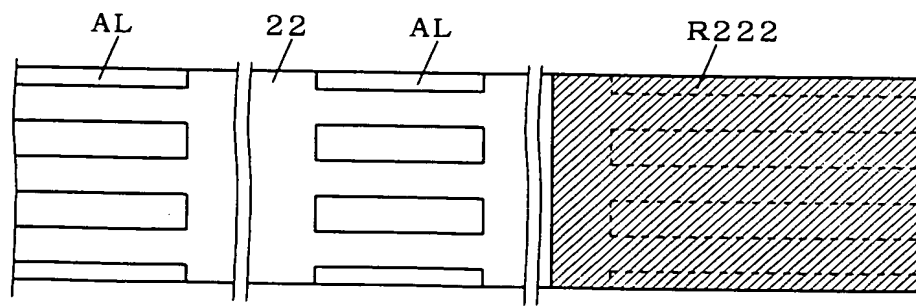


FIG. 27

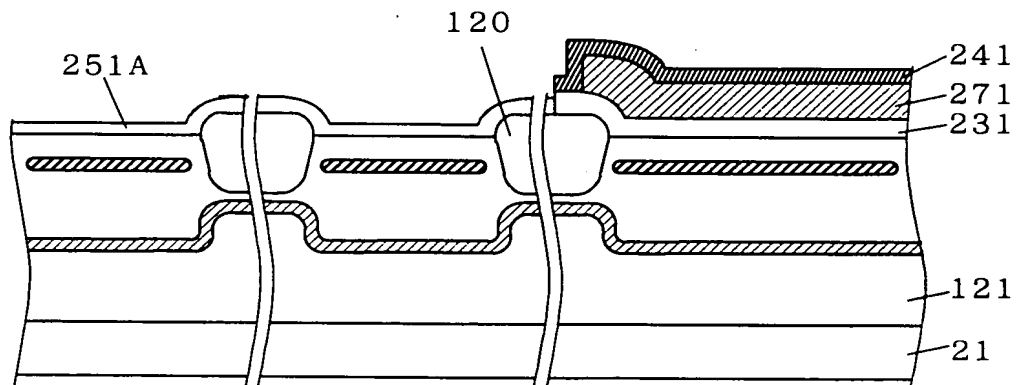


FIG. 28

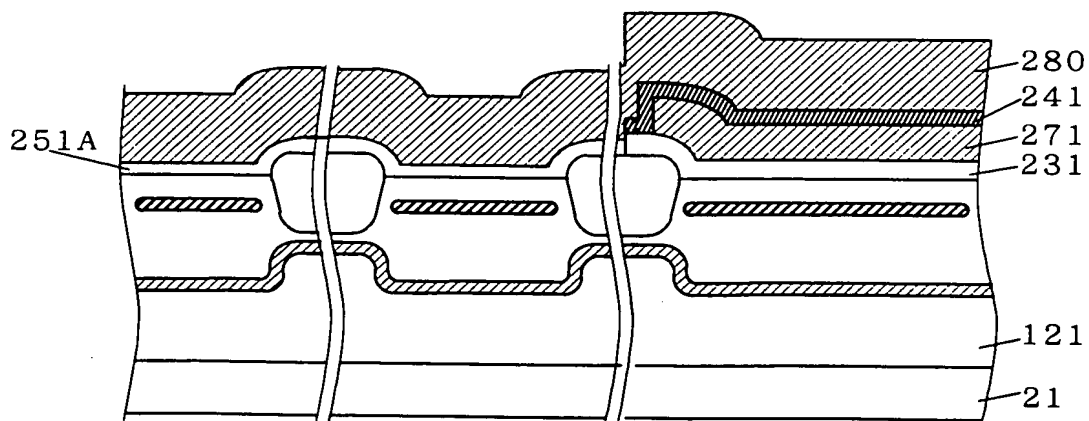


FIG. 29

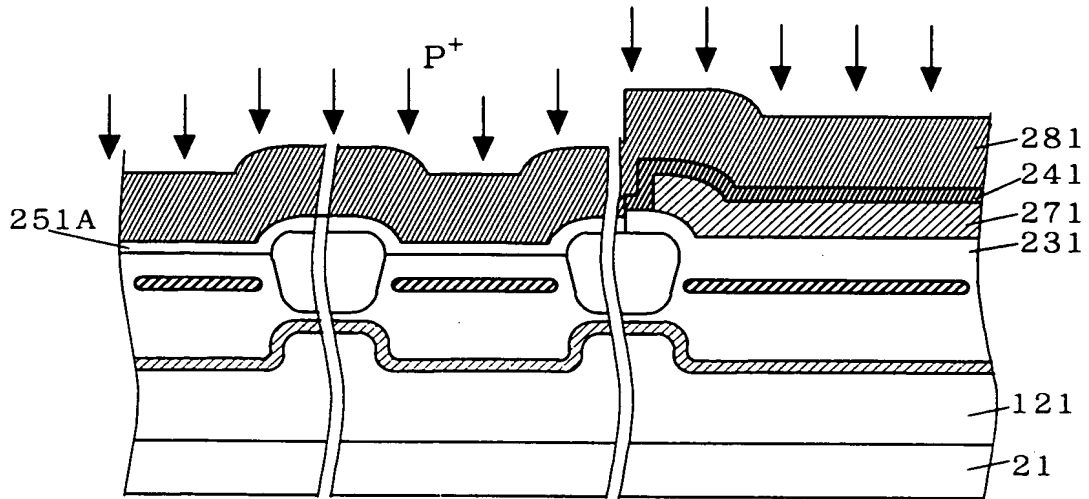
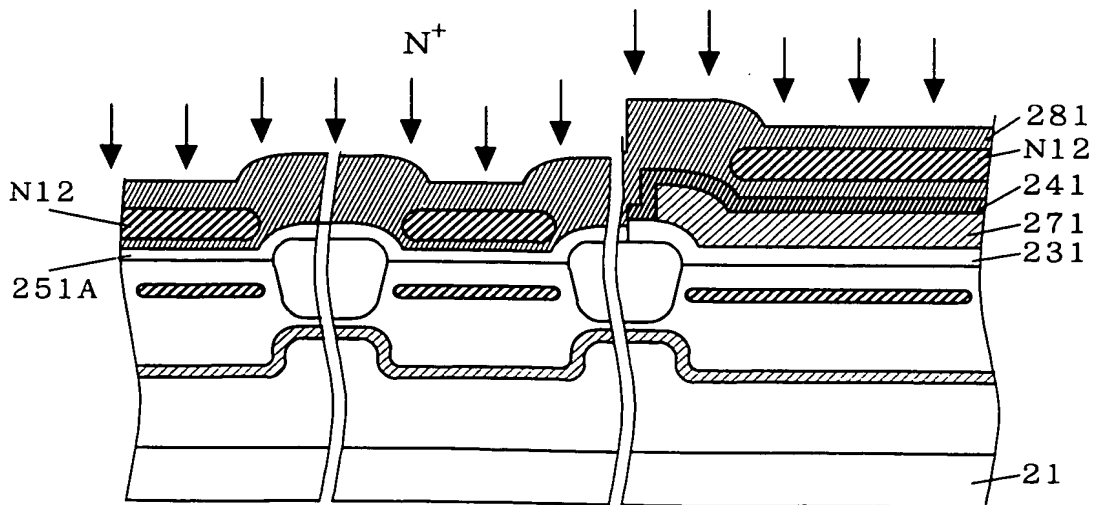
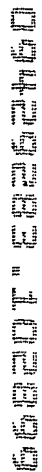


FIG. 30



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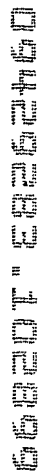


FIG. 33

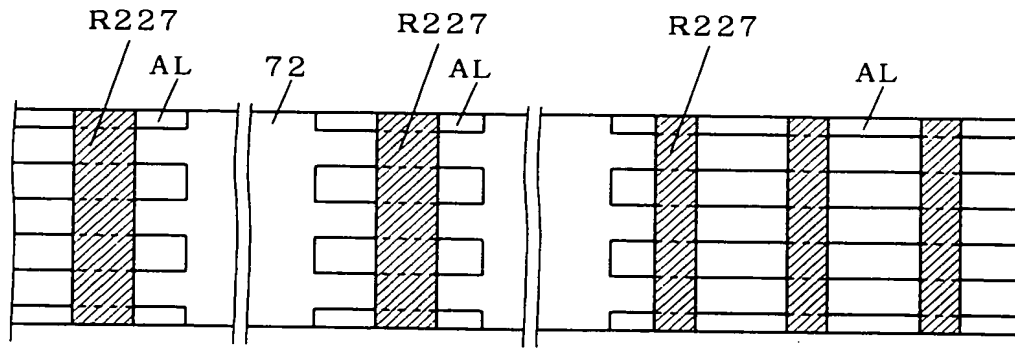
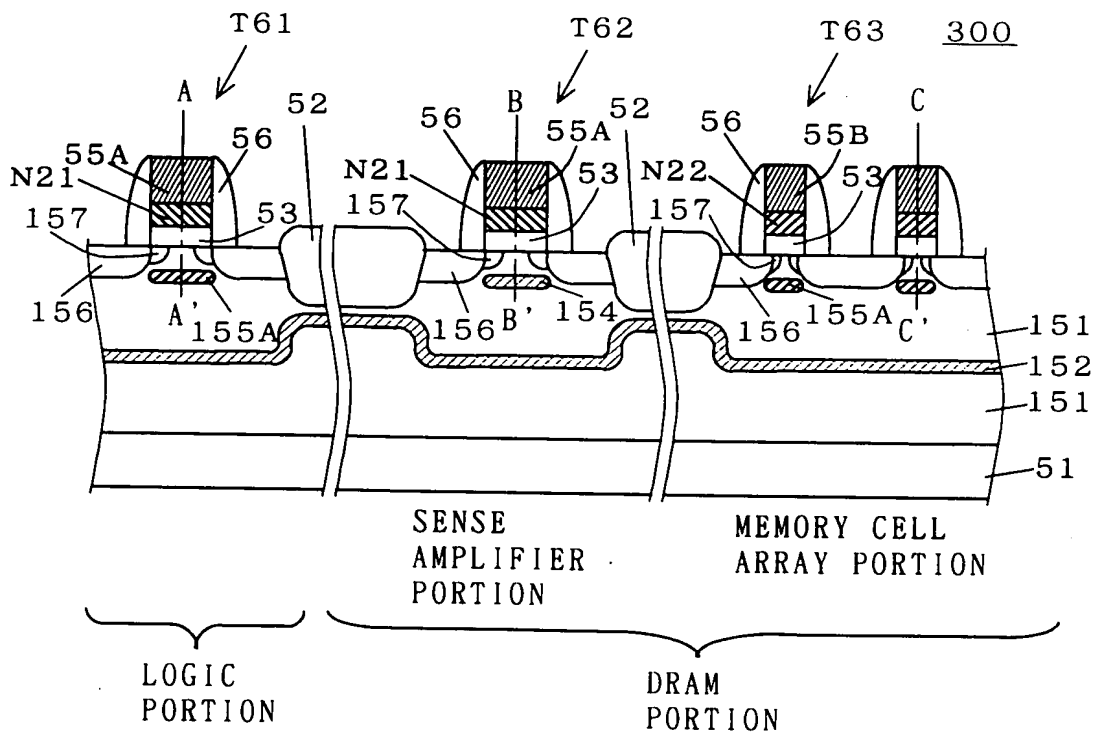
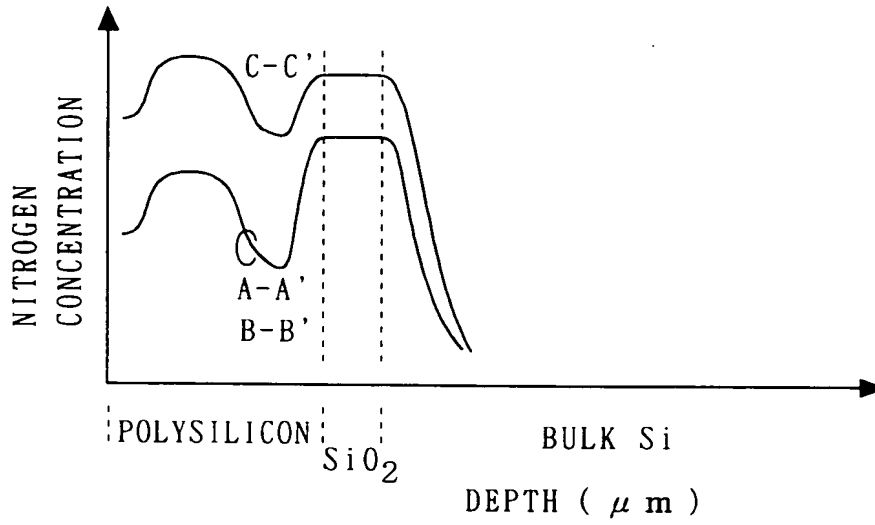


FIG. 34





F I G . 3 5



F I G . 3 6

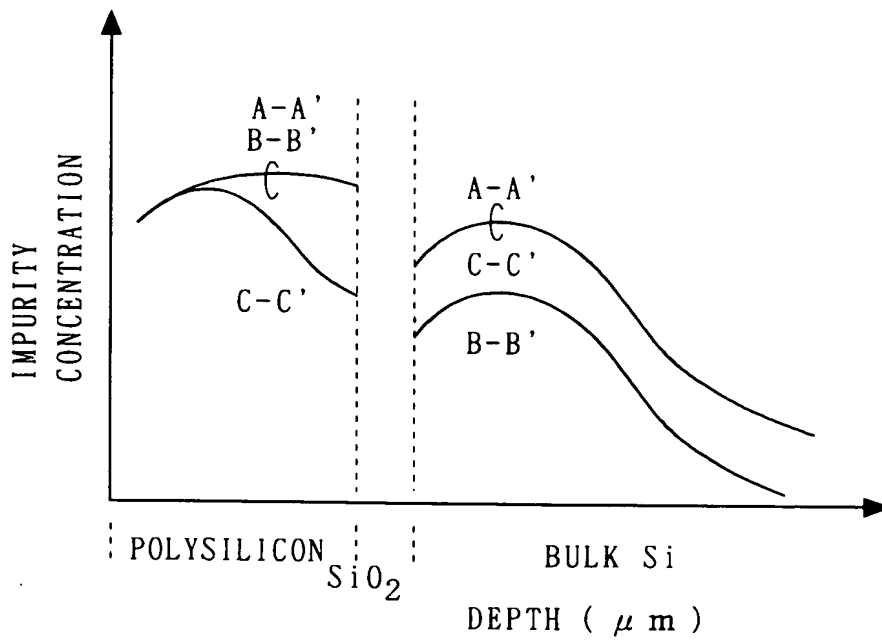


FIG. 37

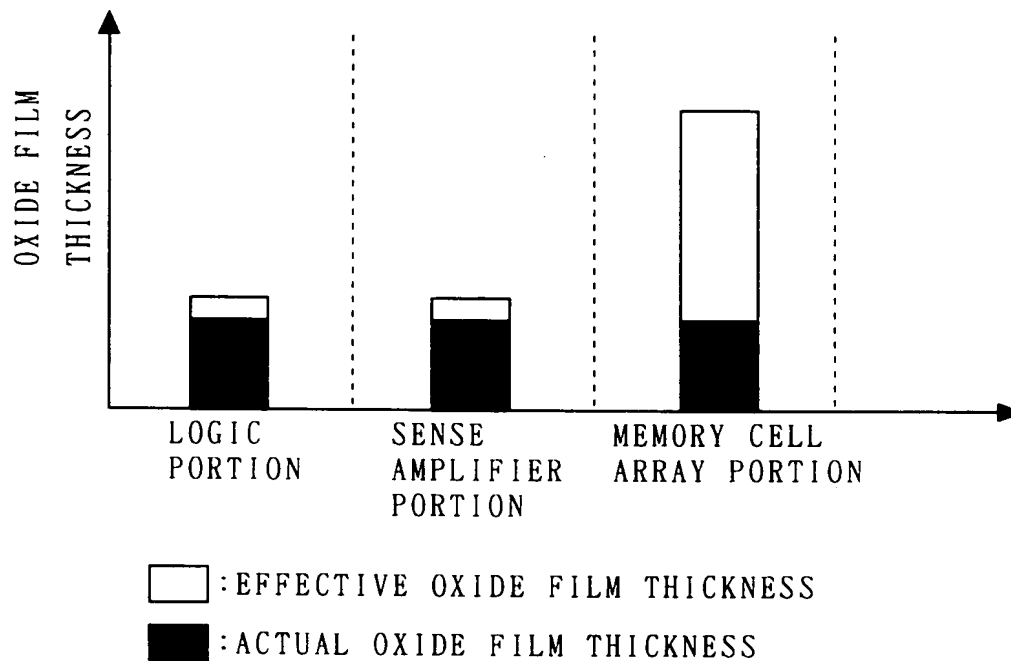


FIG. 38

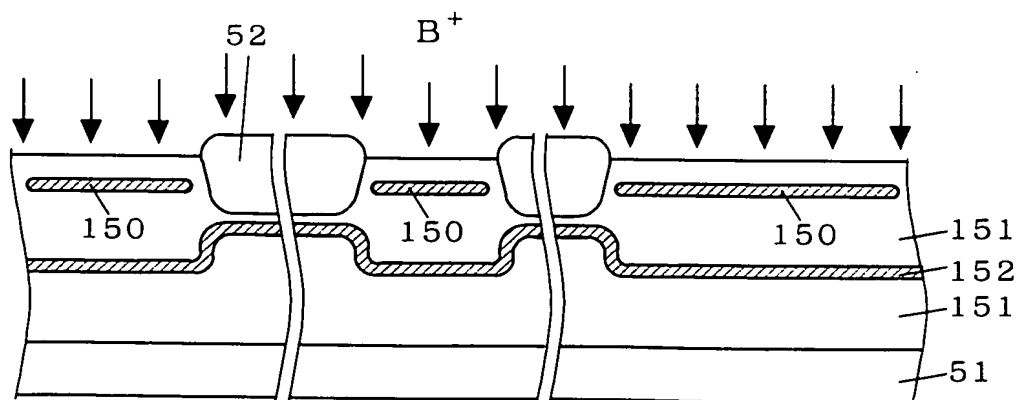


FIG. 39

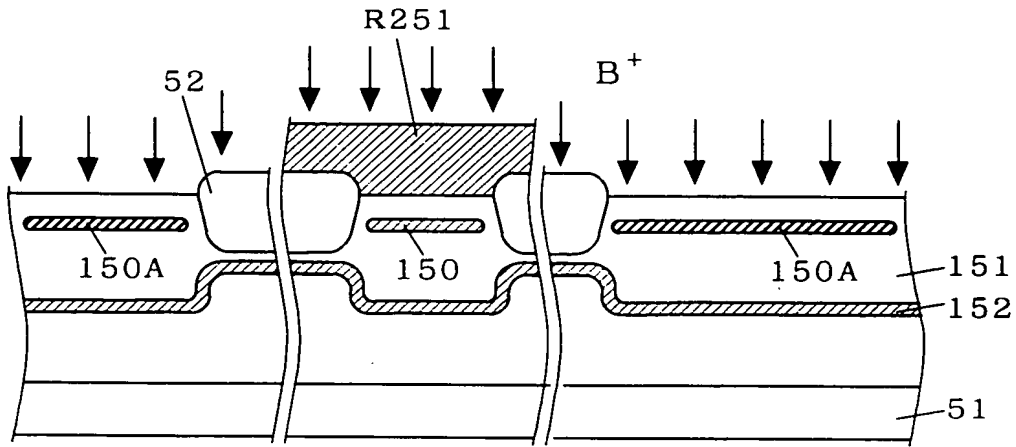
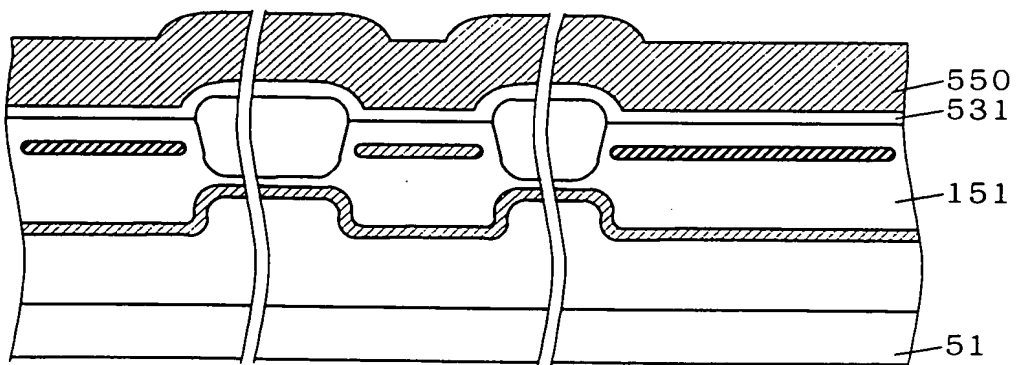


FIG. 40



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FIG. 41

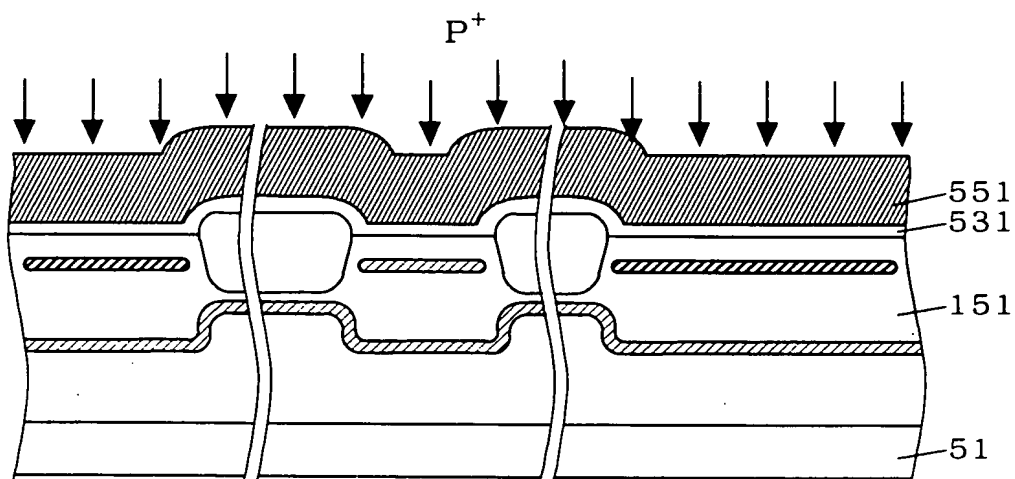


FIG. 42

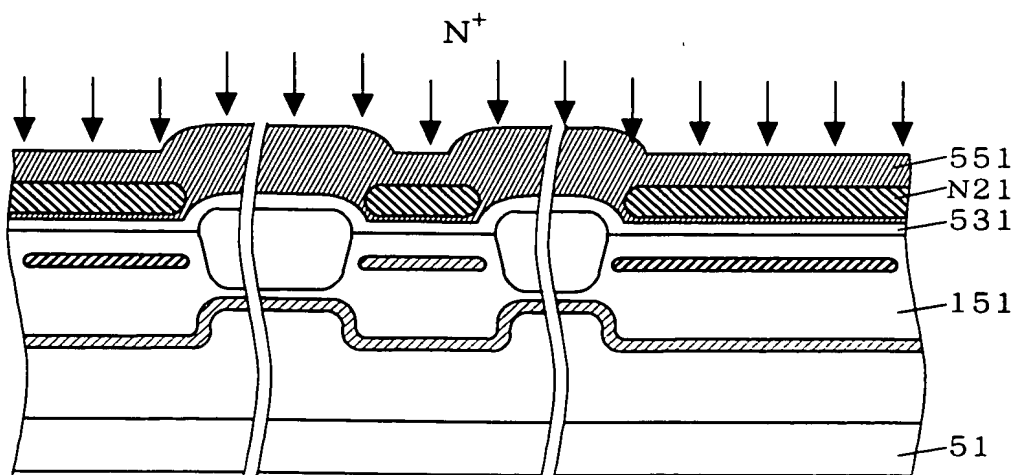


FIG. 43

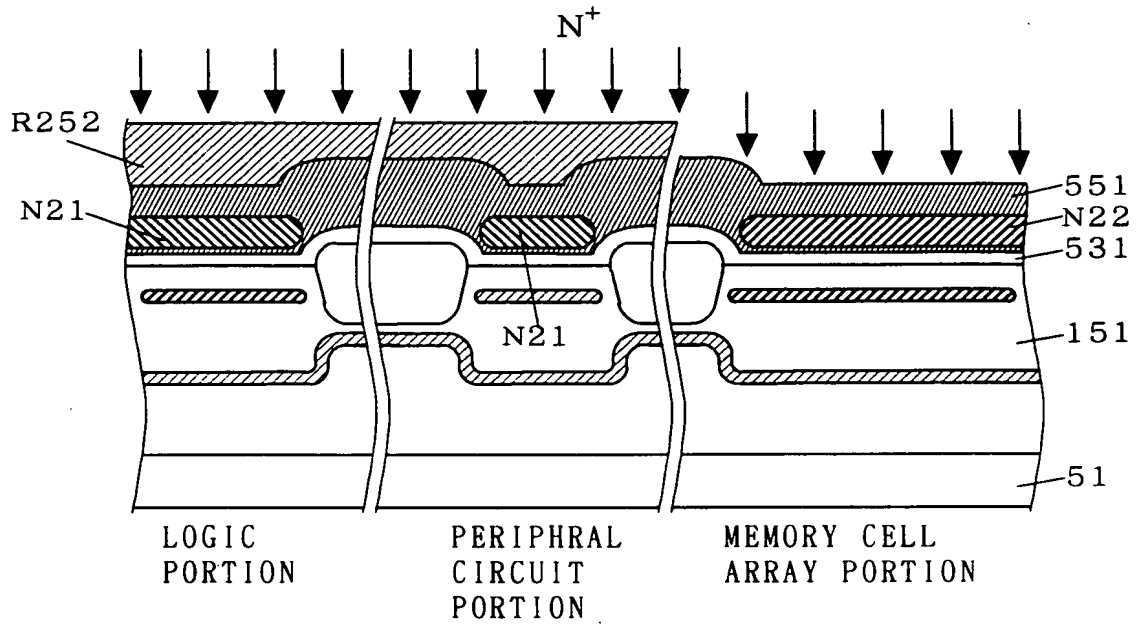


FIG. 44

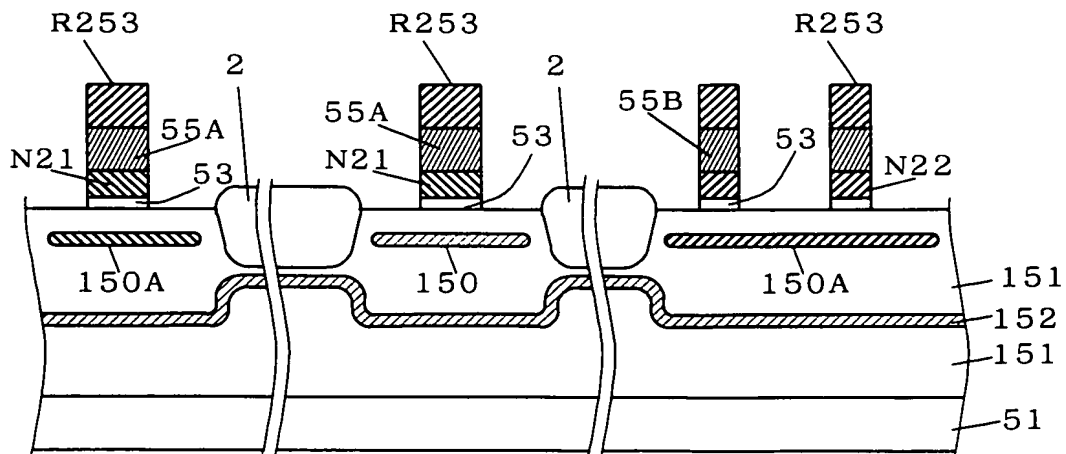


FIG. 45

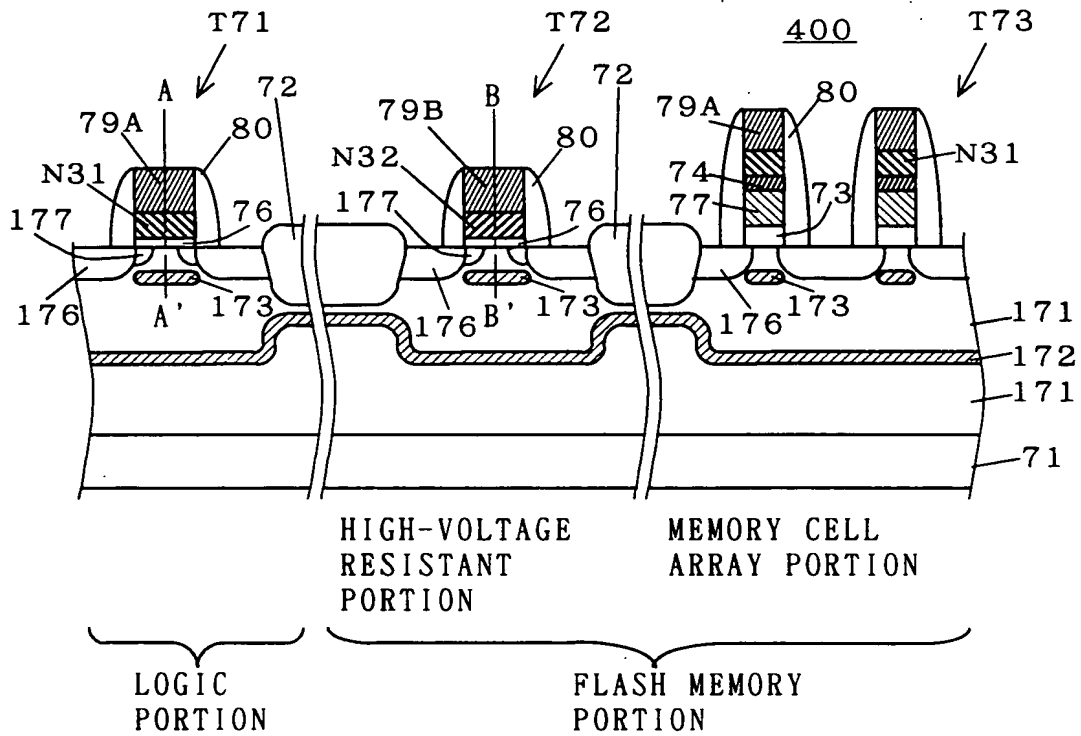


FIG. 46

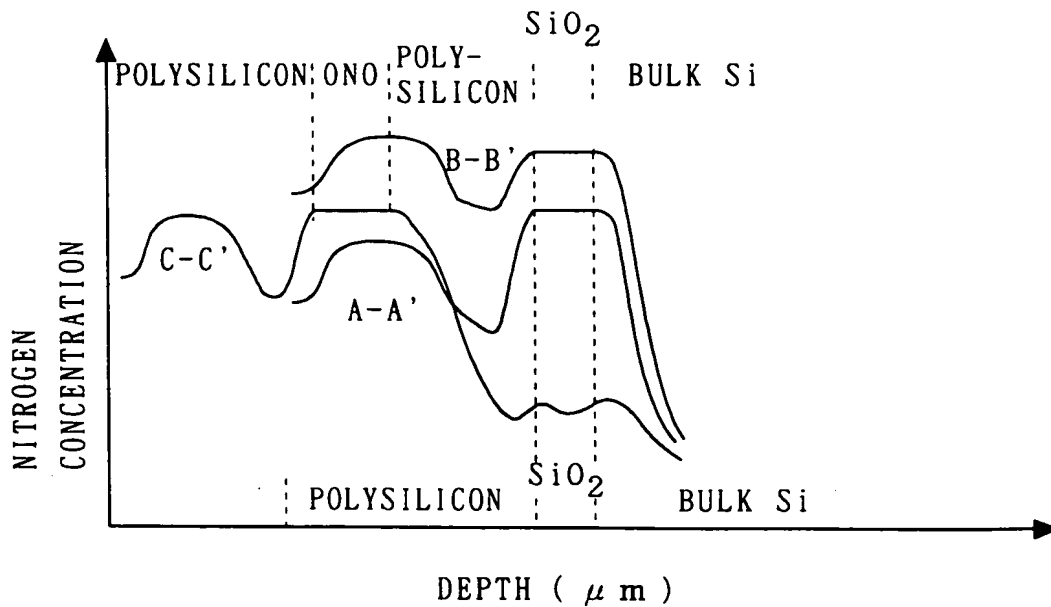


FIG. 47

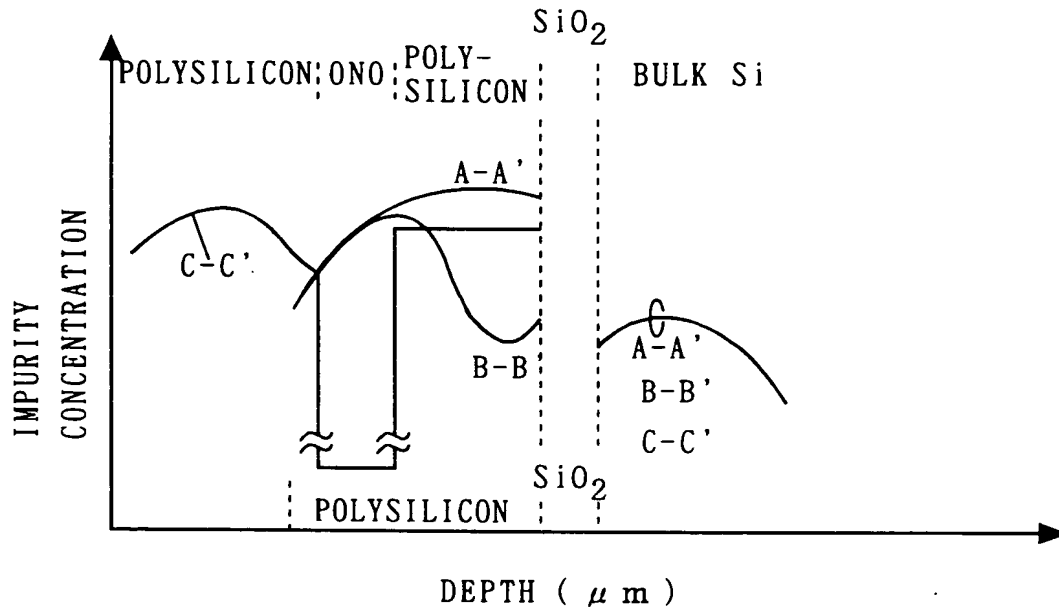


FIG. 48

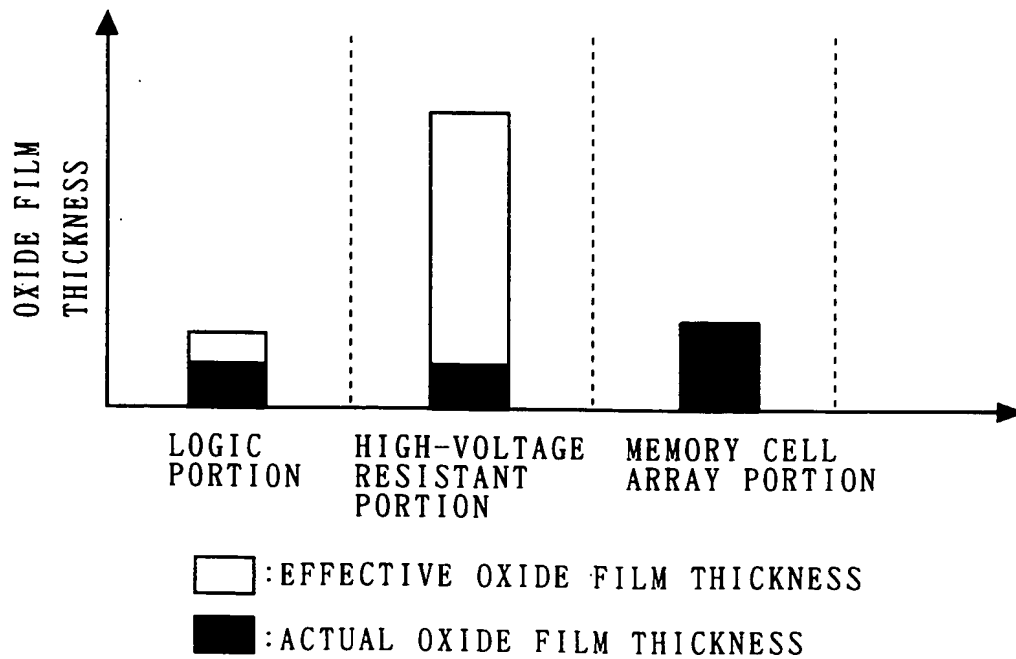


FIG. 49

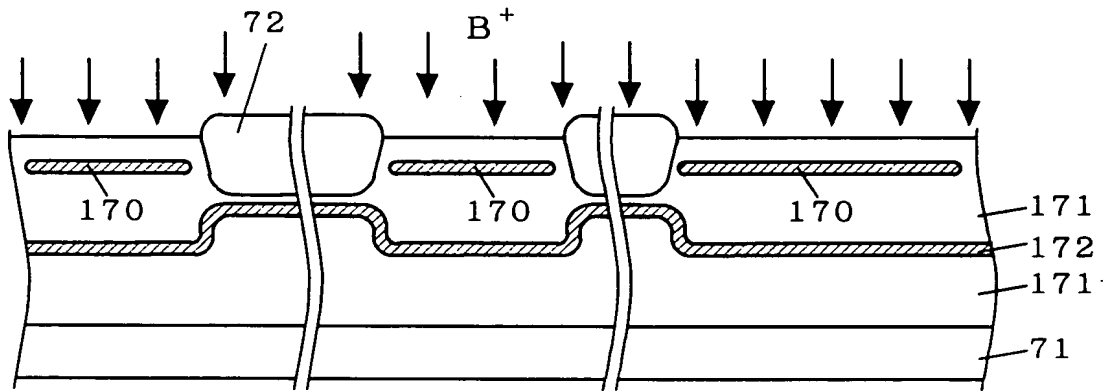


FIG. 50

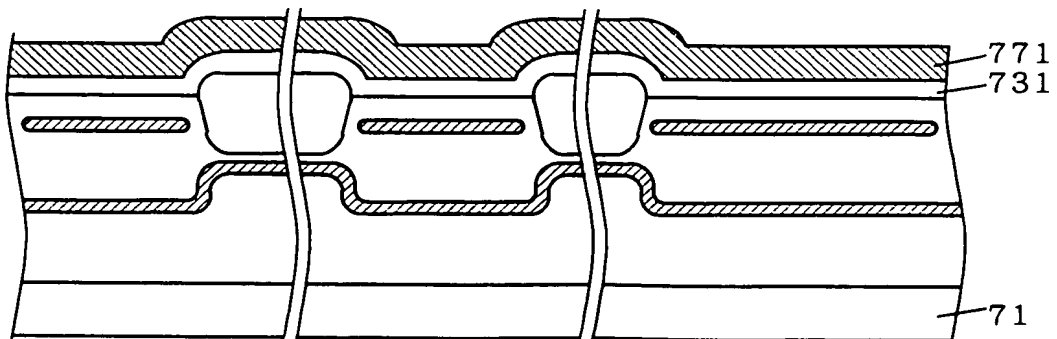




FIG. 51

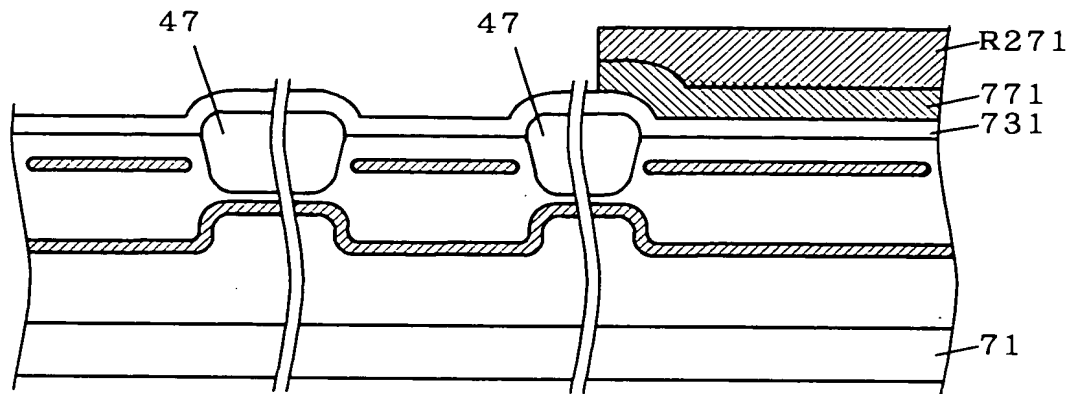


FIG. 52

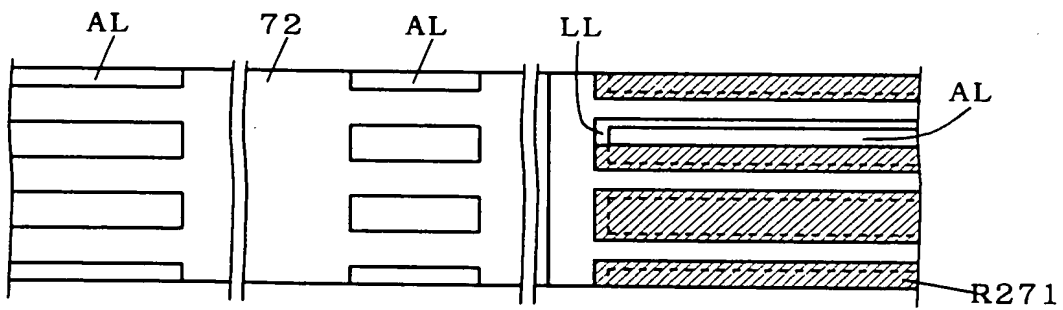


FIG. 53

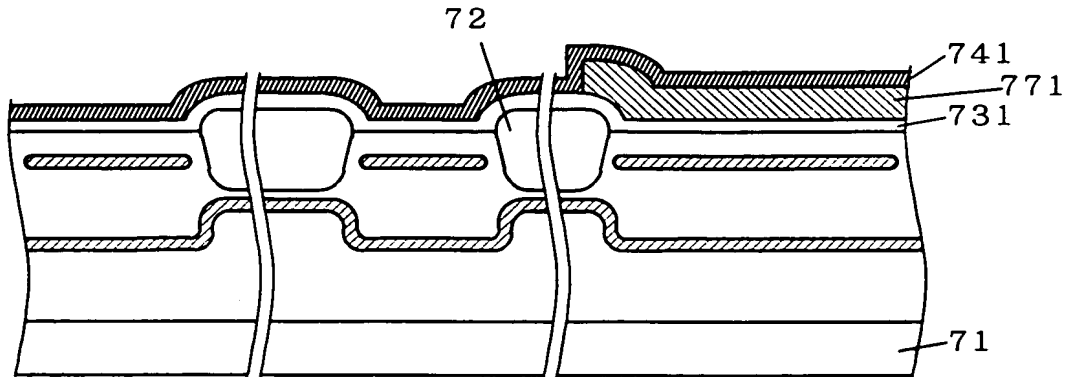


FIG. 54

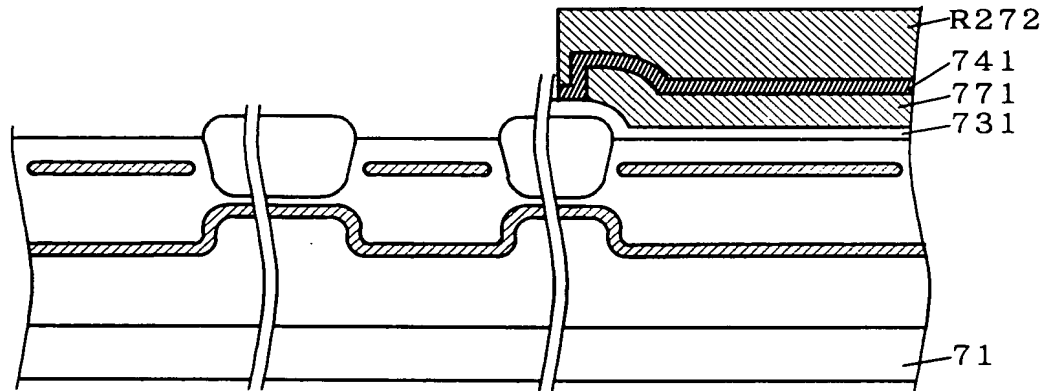


FIG. 55

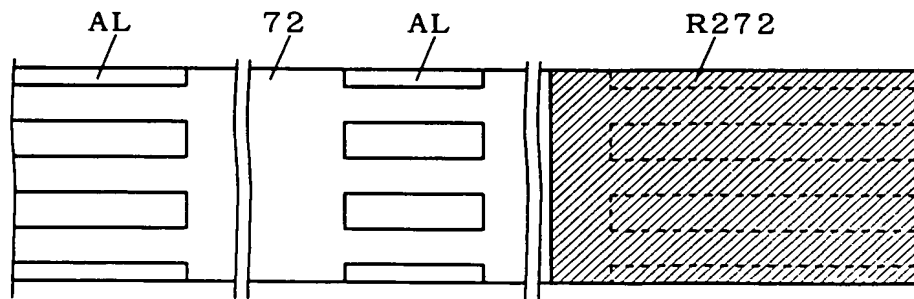


FIG. 56

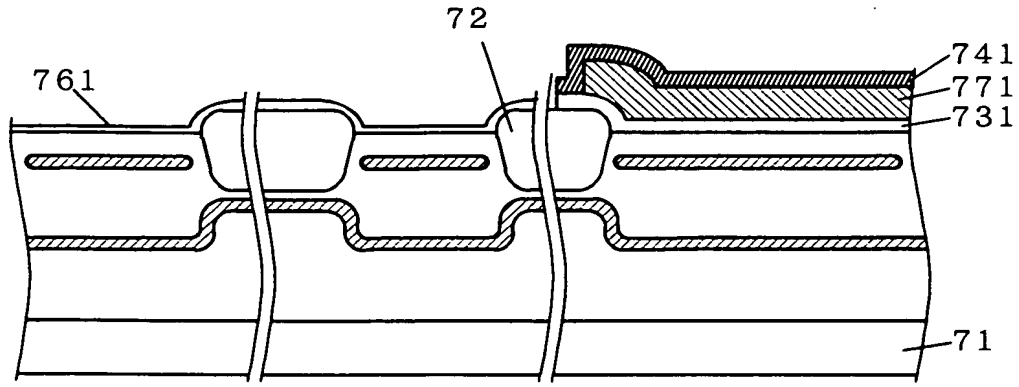


FIG. 57

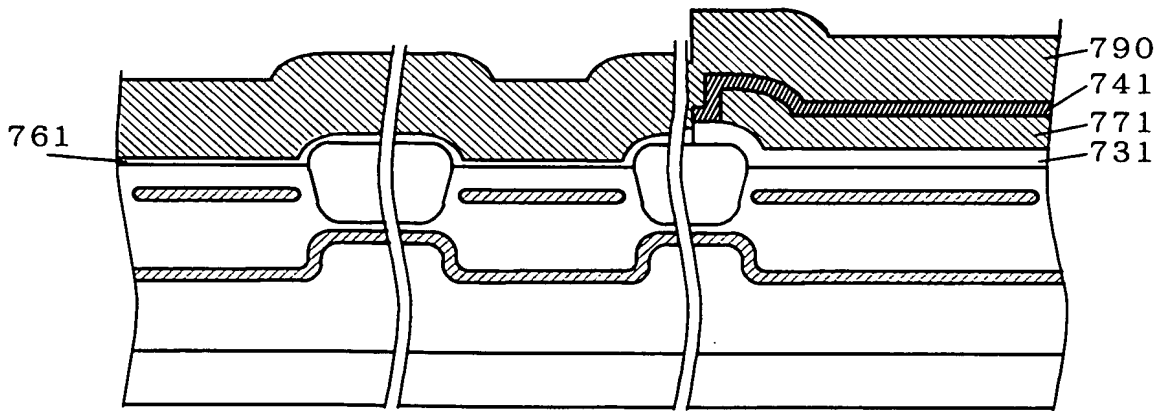


FIG. 58

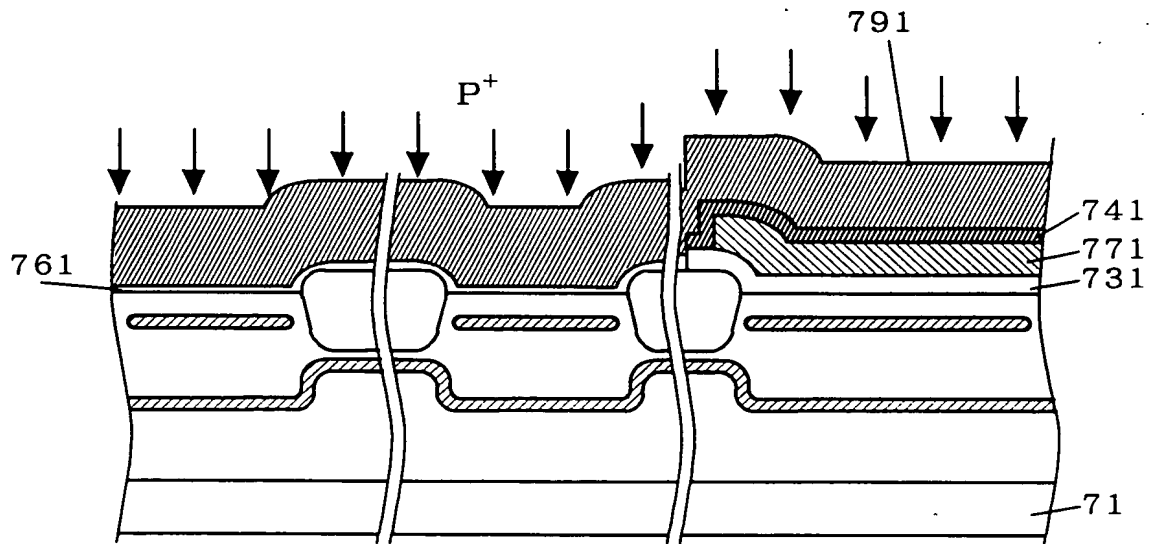


FIG. 59

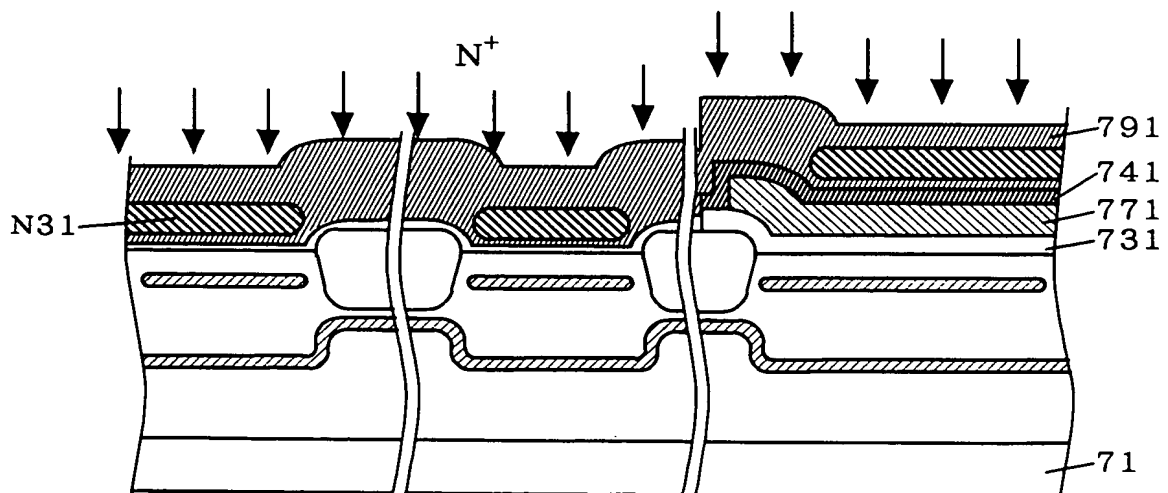


FIG. 60

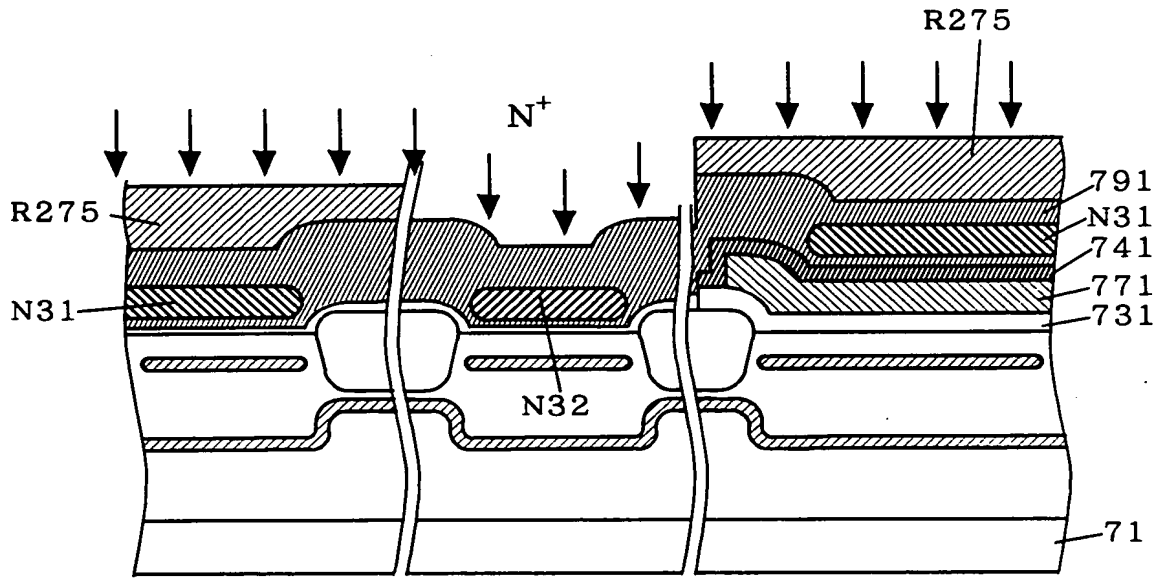


FIG. 61

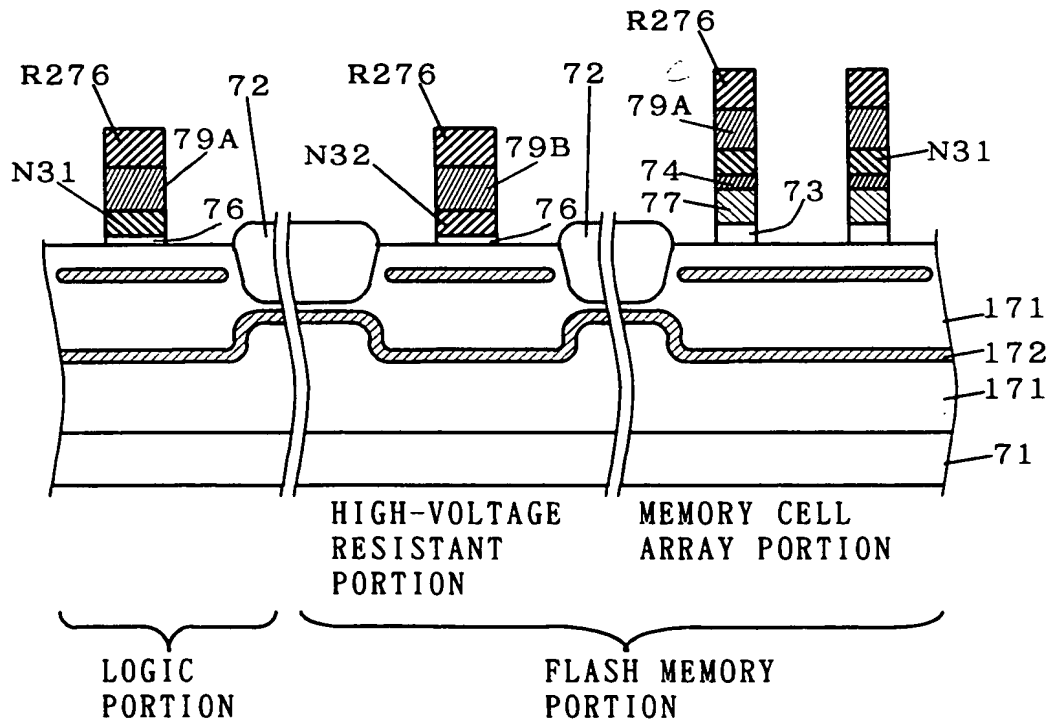


FIG. 62

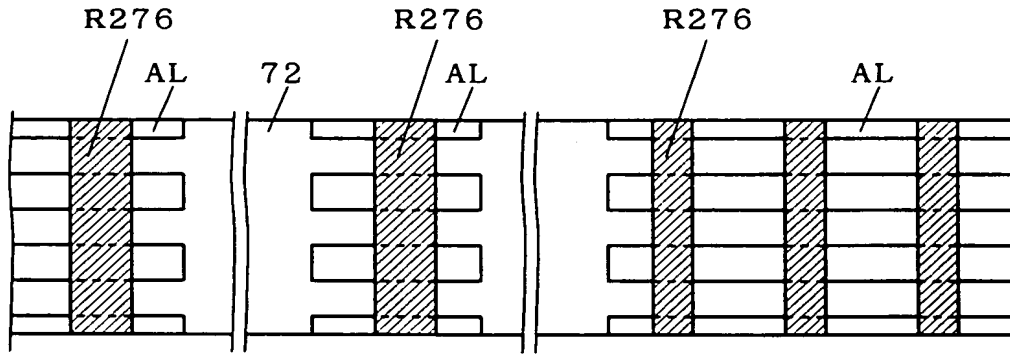
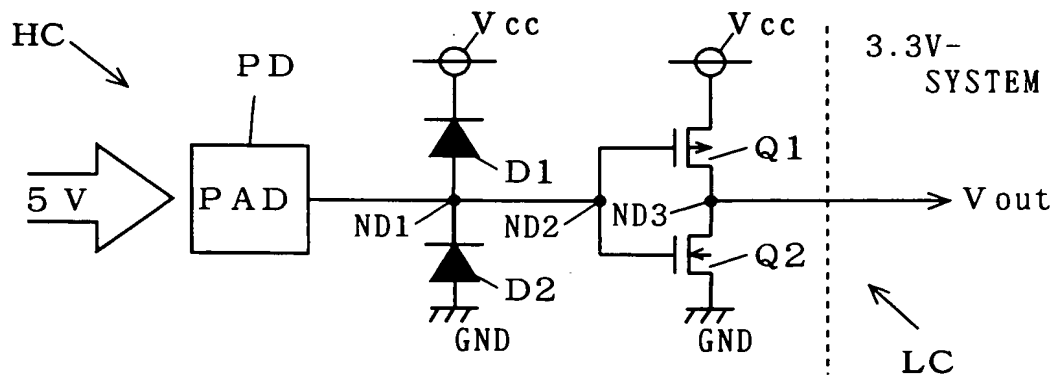


FIG. 63



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FIG. 64

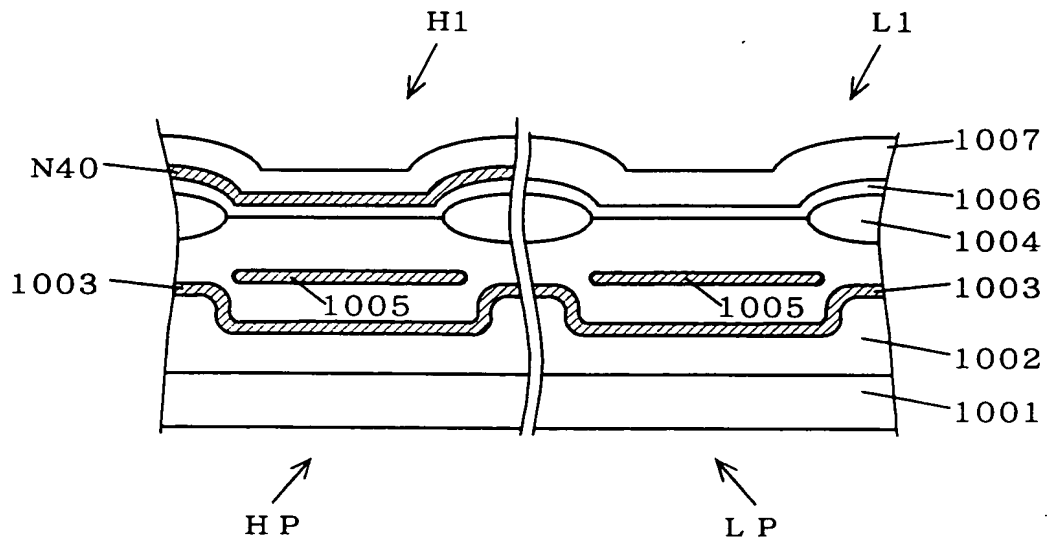


FIG. 65

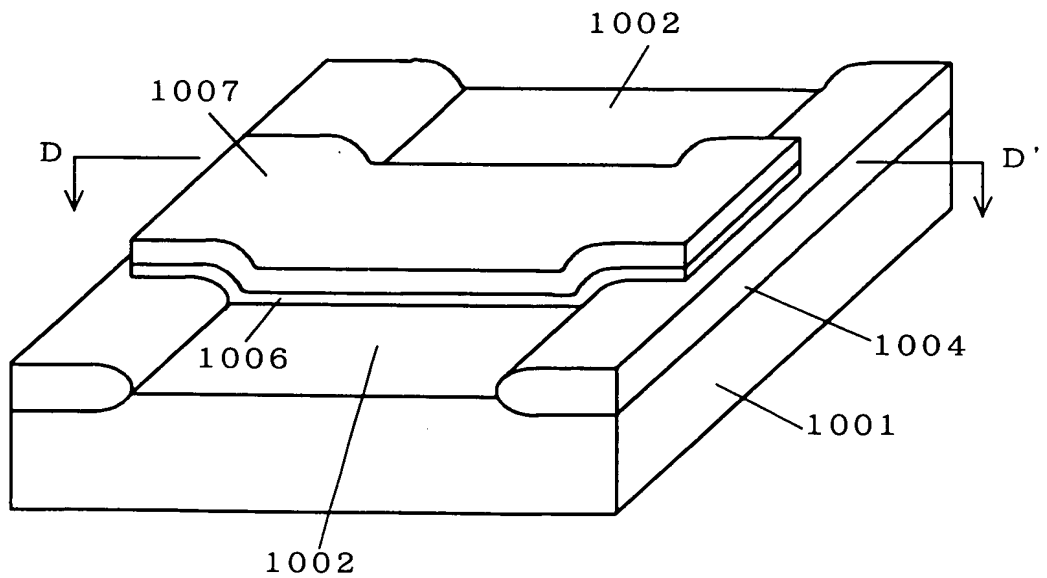


FIG. 66

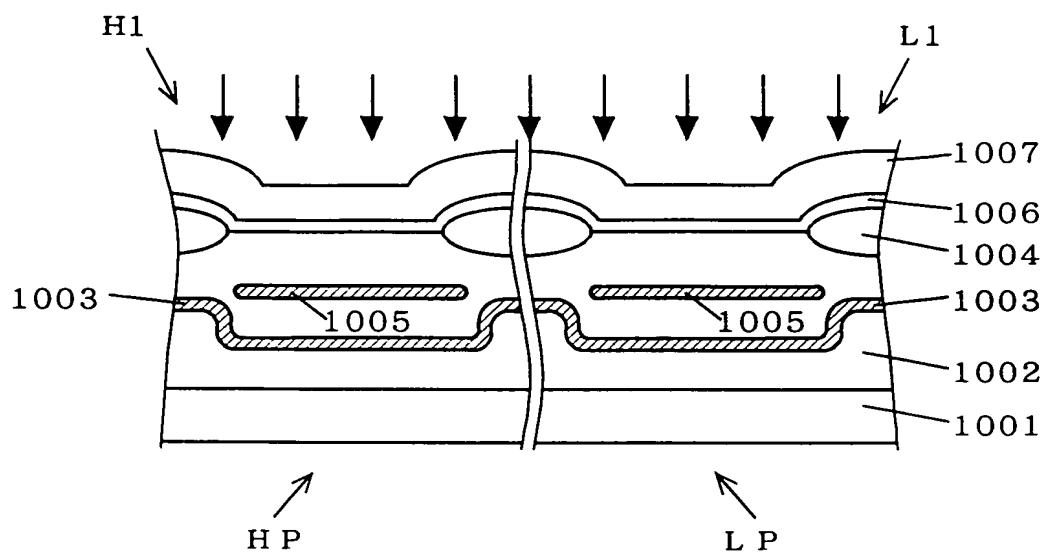


FIG. 67

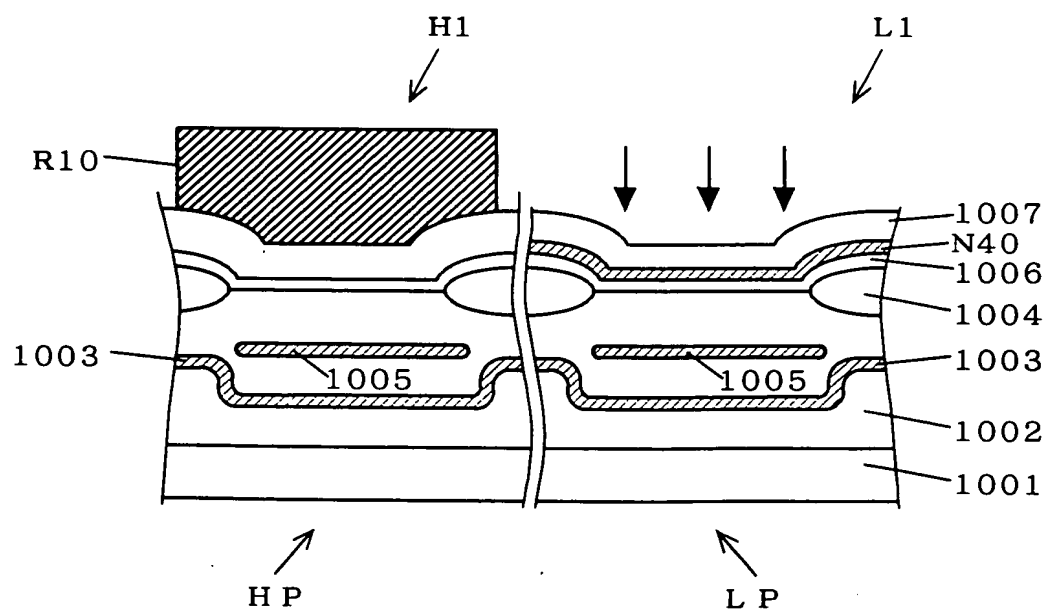




FIG. 68

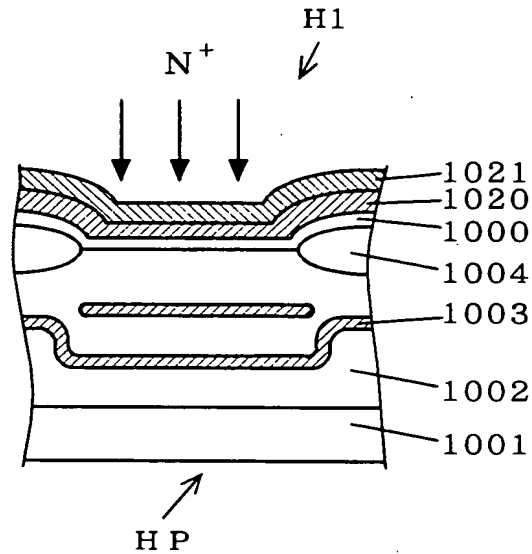


FIG. 69

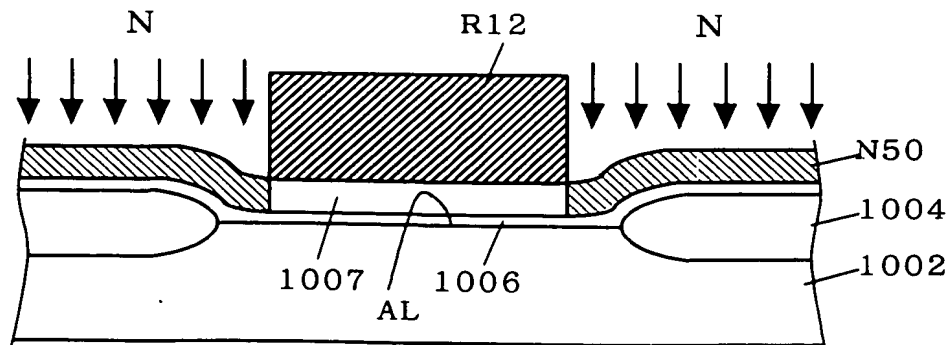


FIG. 70

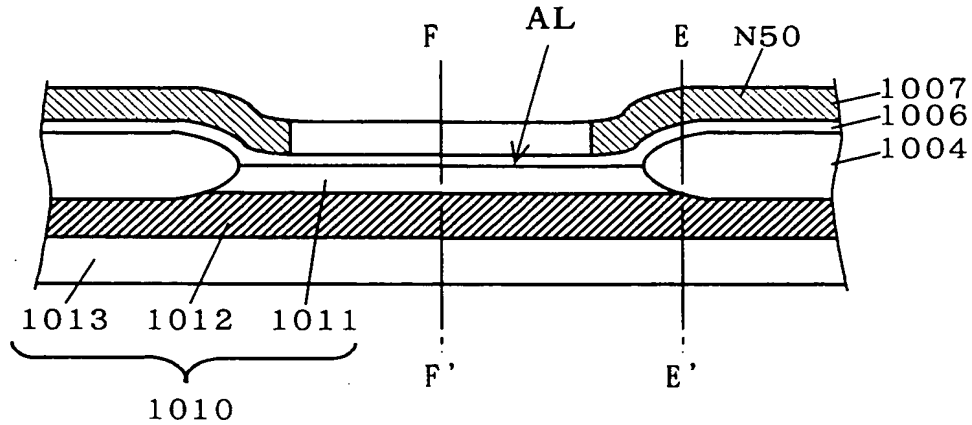


FIG. 71

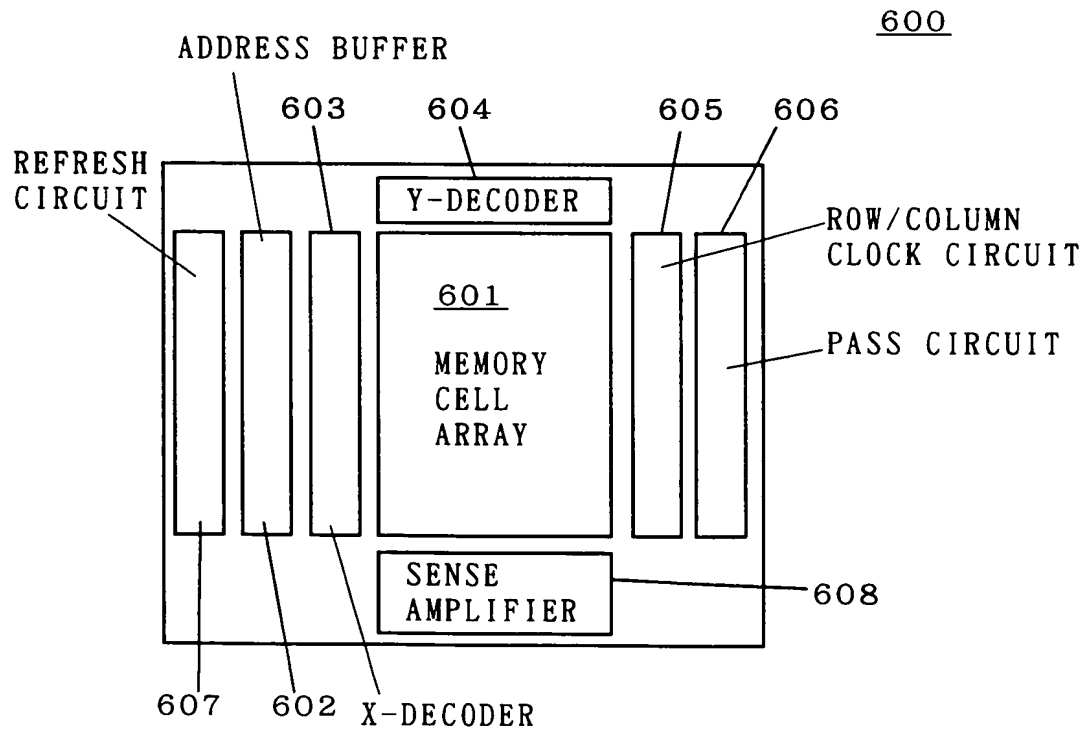


FIG. 72

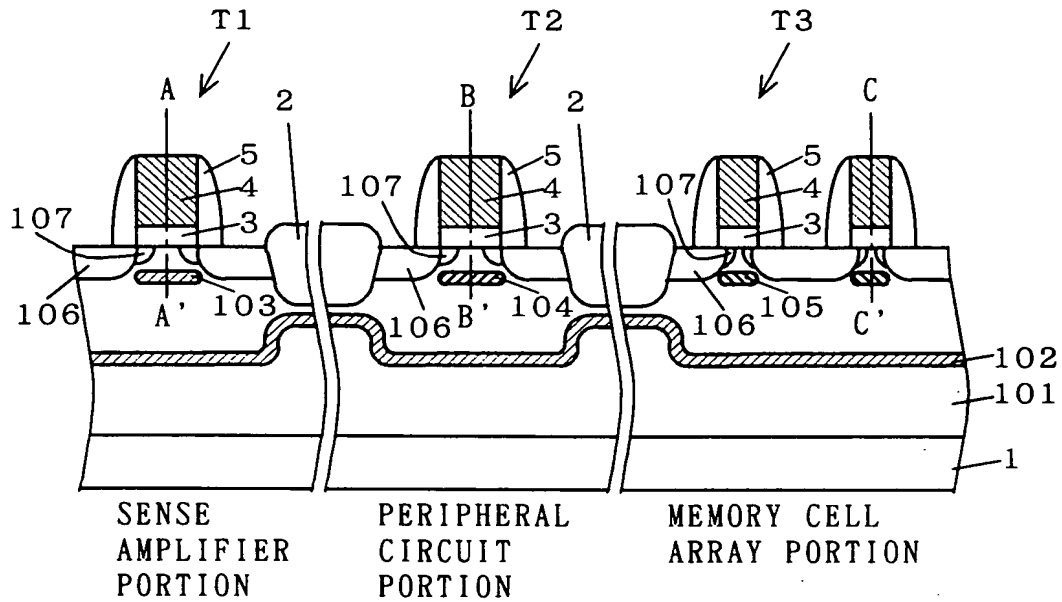
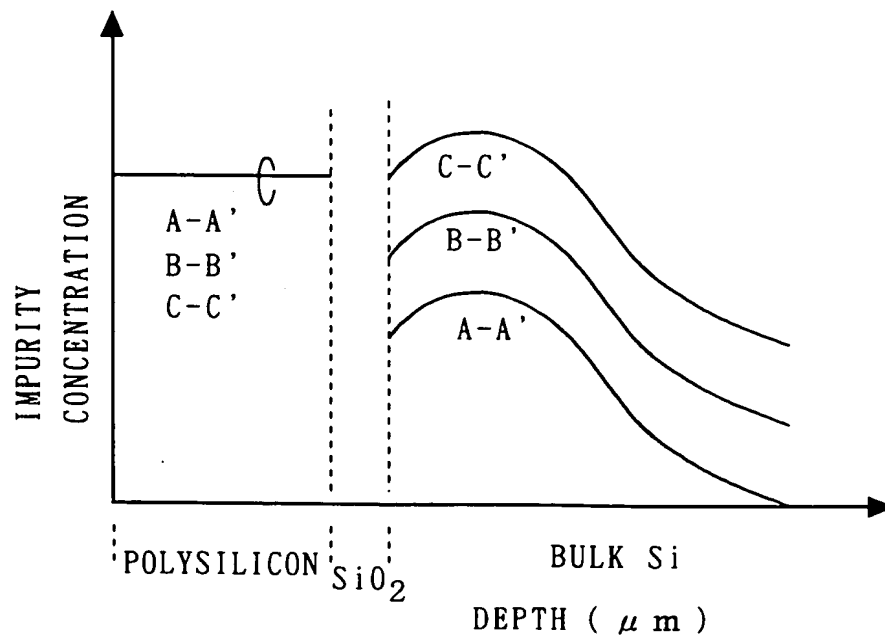
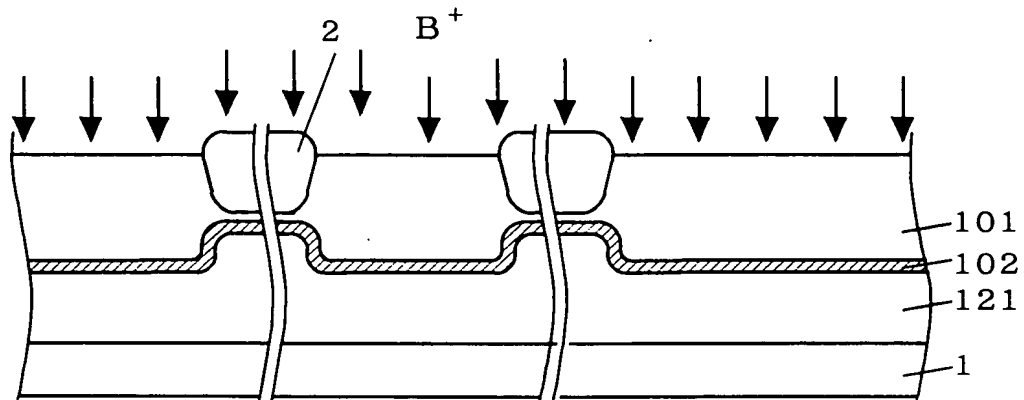


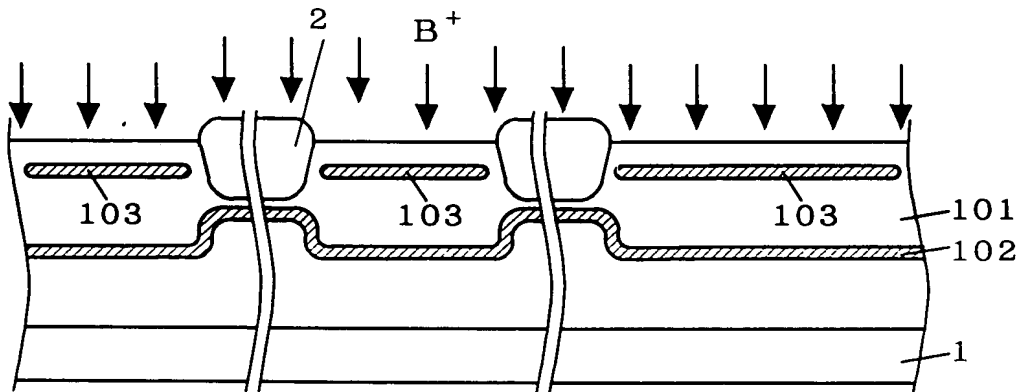
FIG. 73



F I G . 7 4



F I G . 7 5



F I G . 7 6

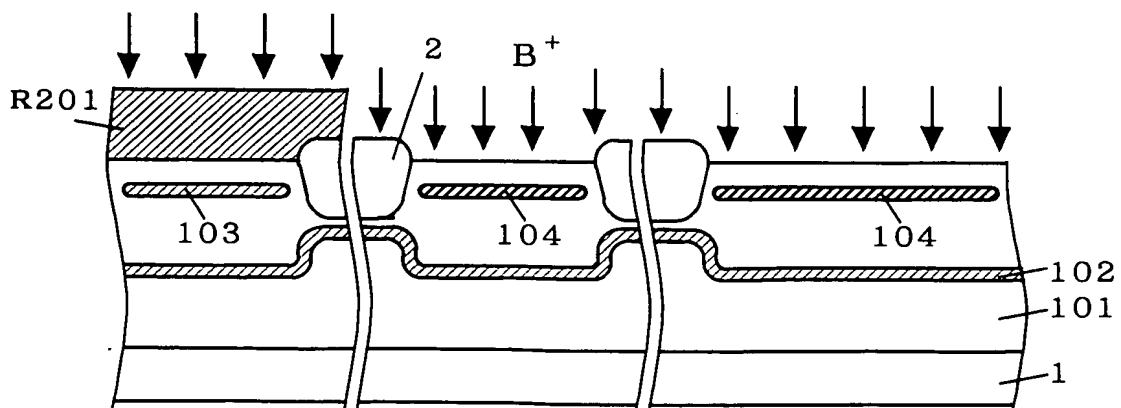


FIG. 77

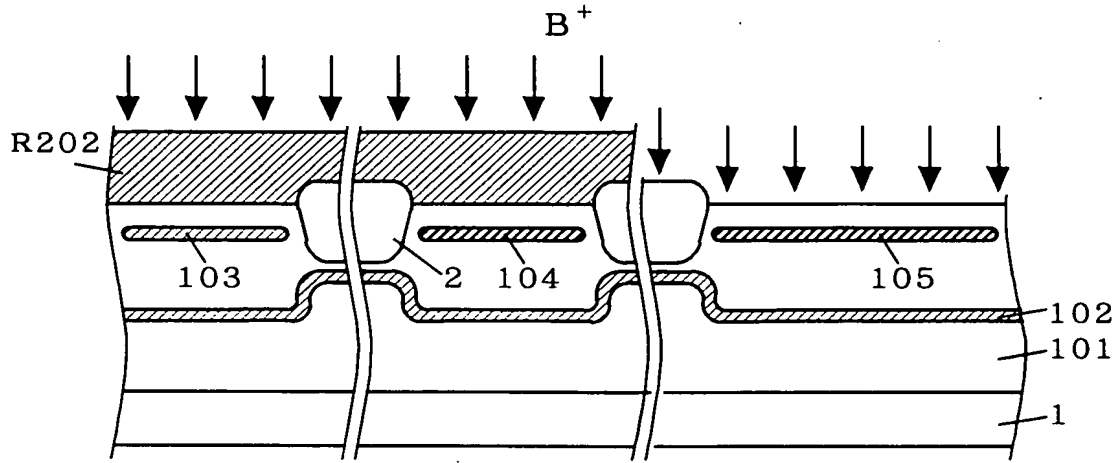


FIG. 78

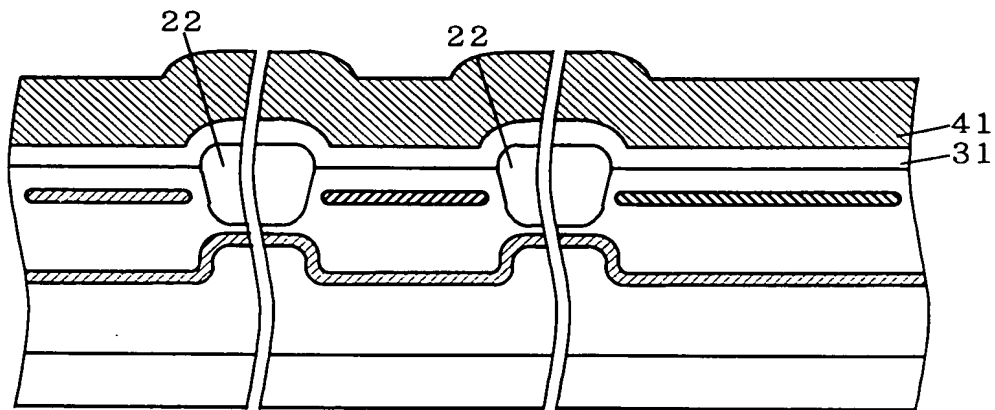


FIG. 79

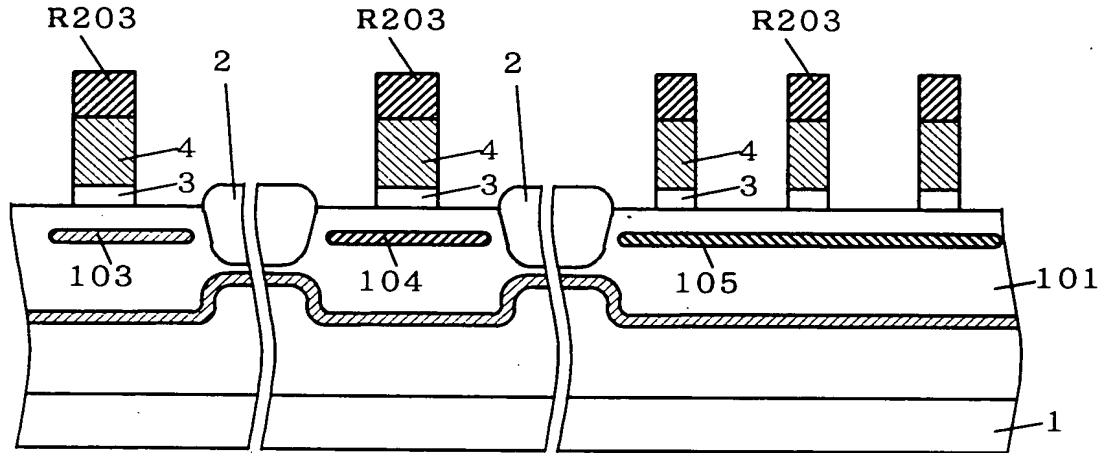


FIG. 80

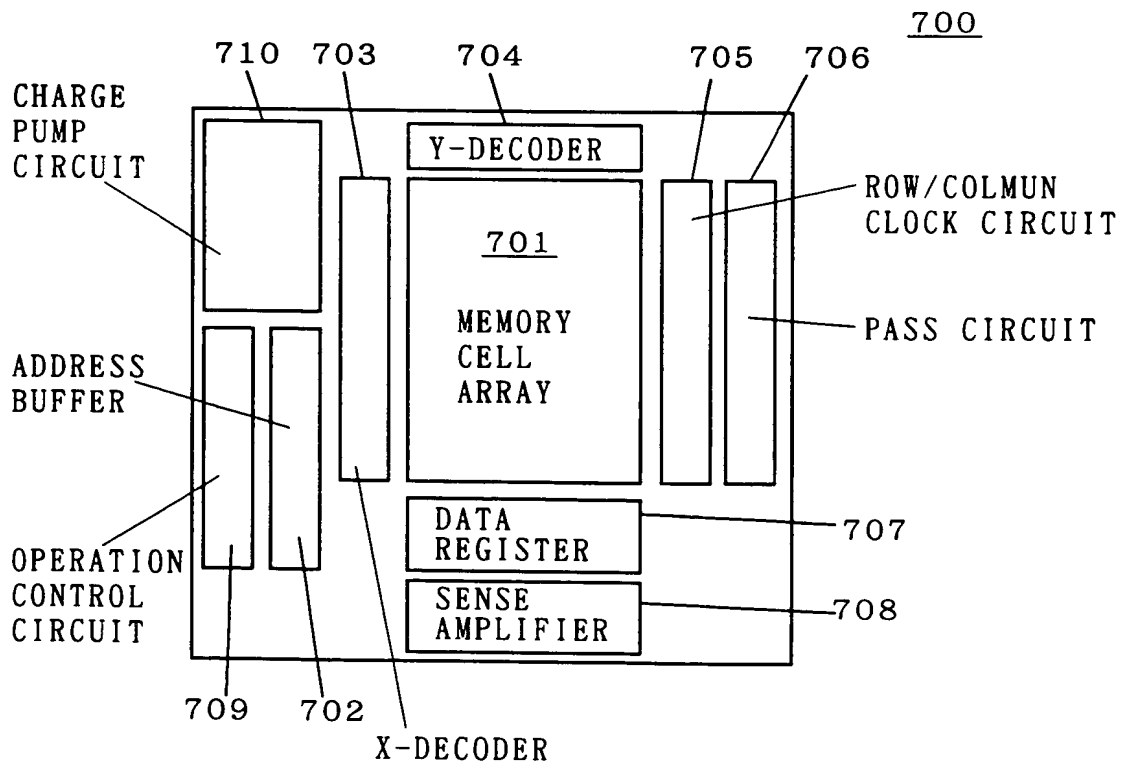


FIG. 81

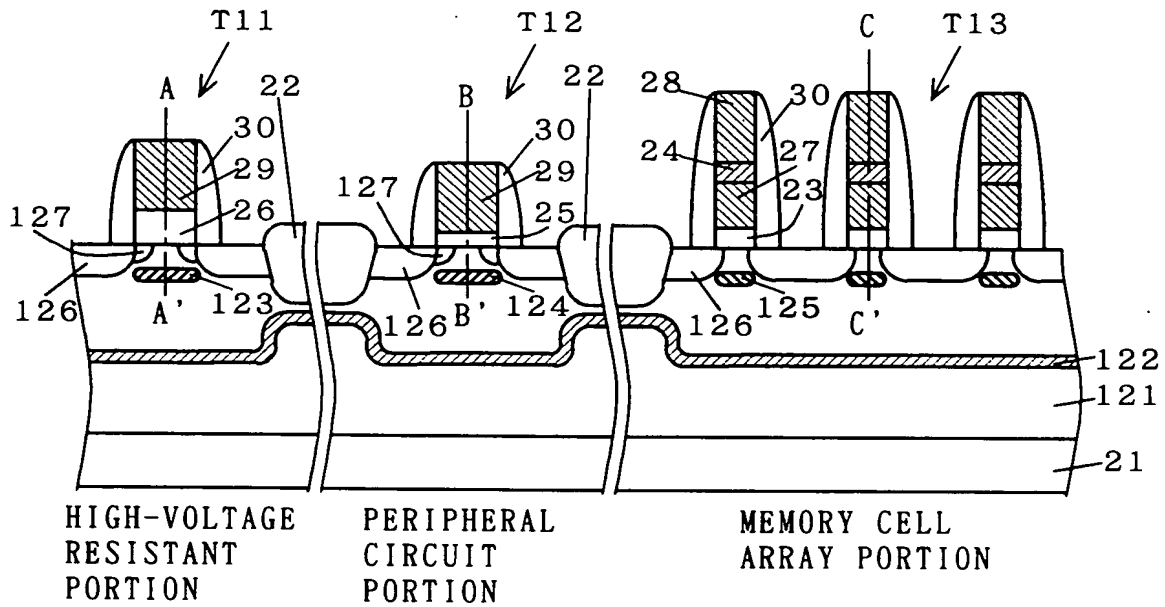


FIG. 82

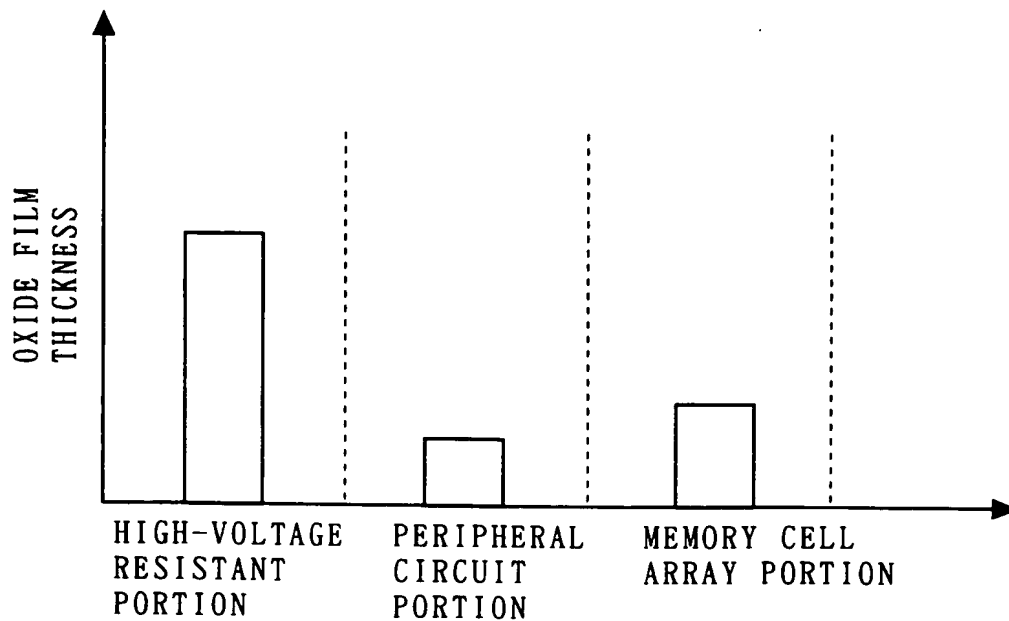


FIG. 83

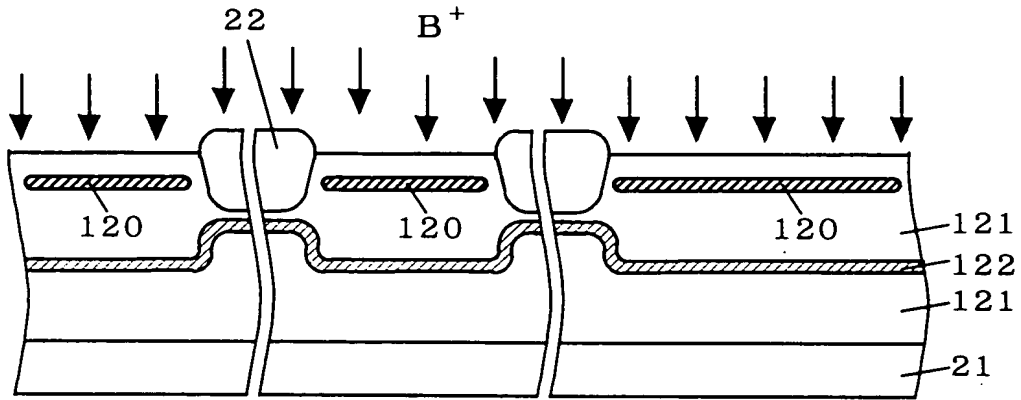


FIG. 84

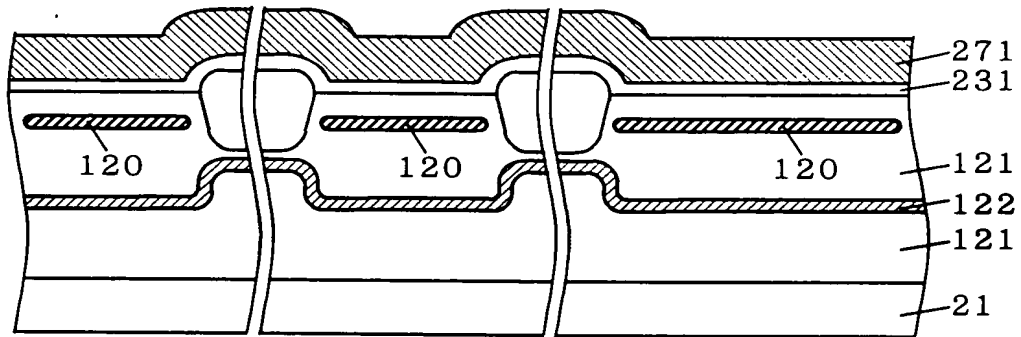


FIG. 85

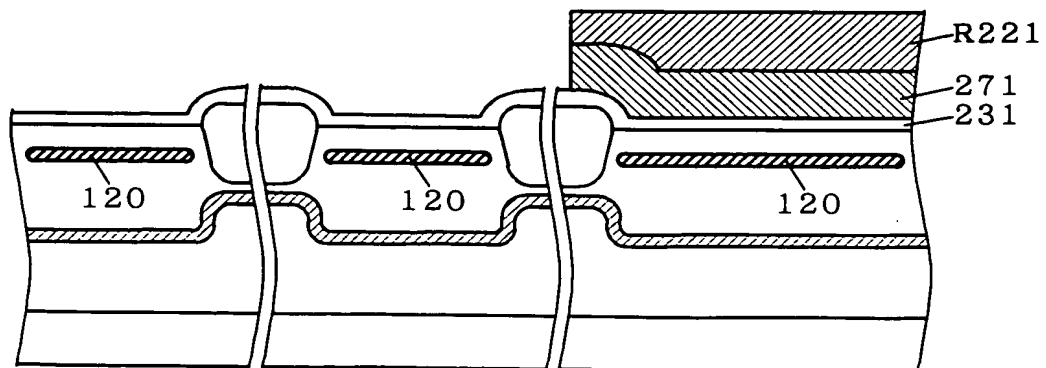




FIG. 86

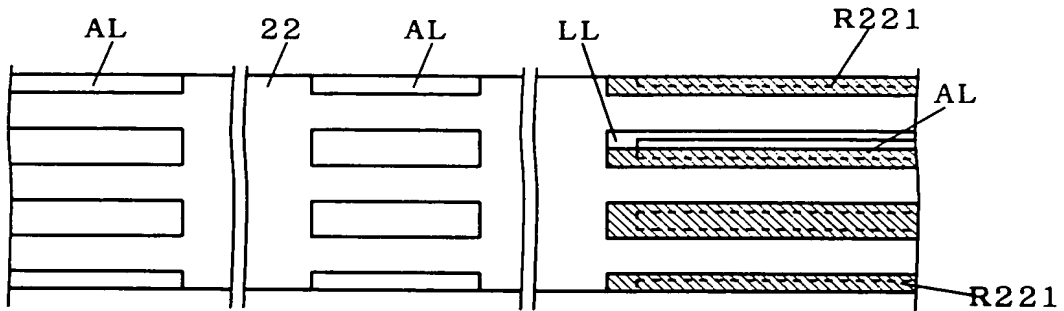


FIG. 87

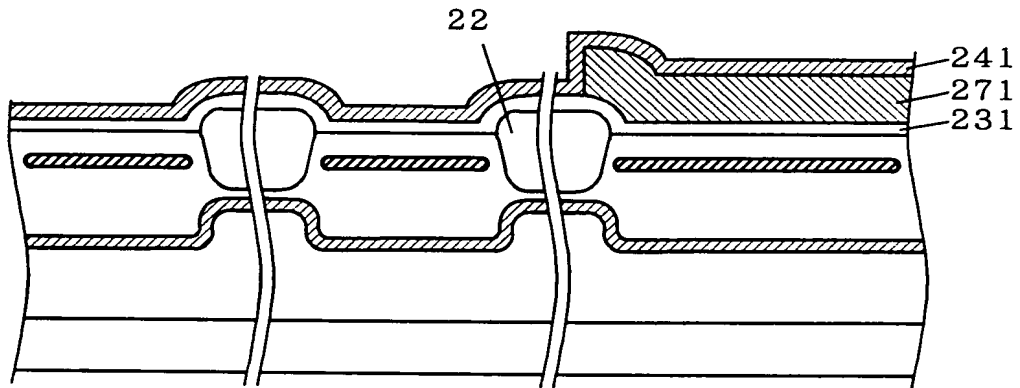


FIG. 88

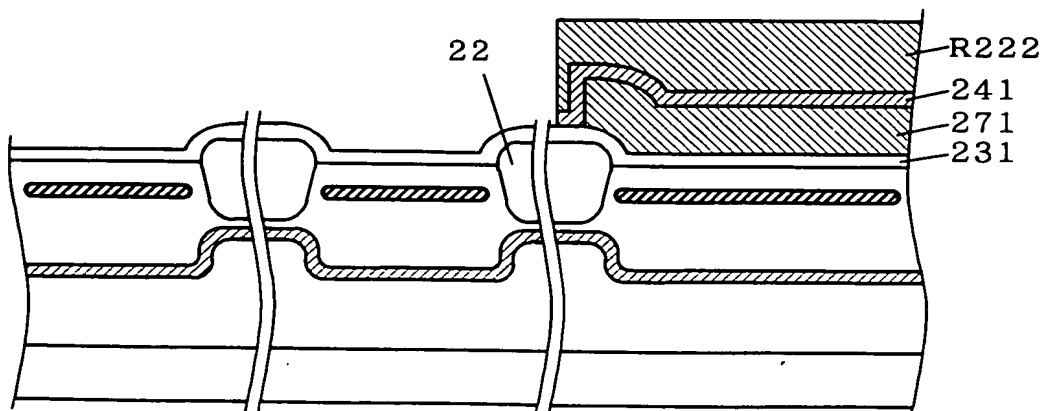


FIG. 89

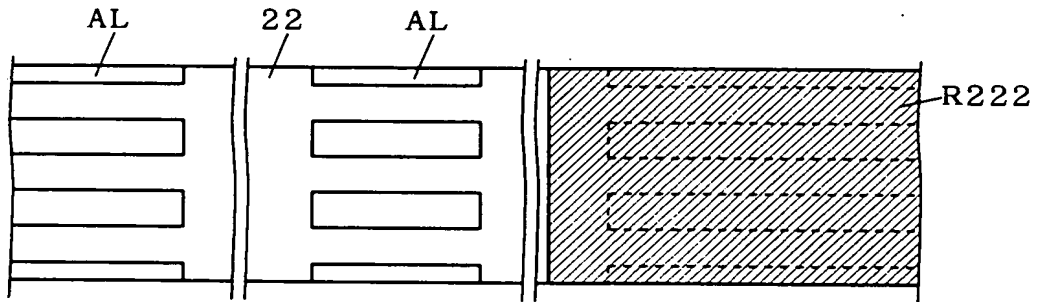


FIG. 90

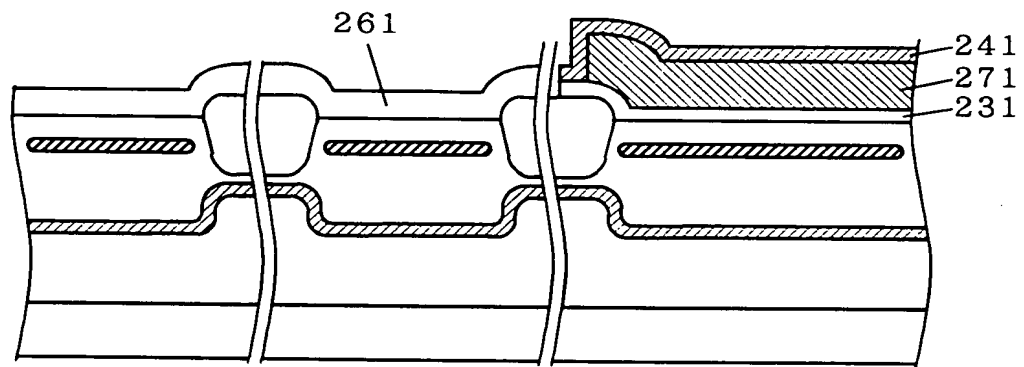
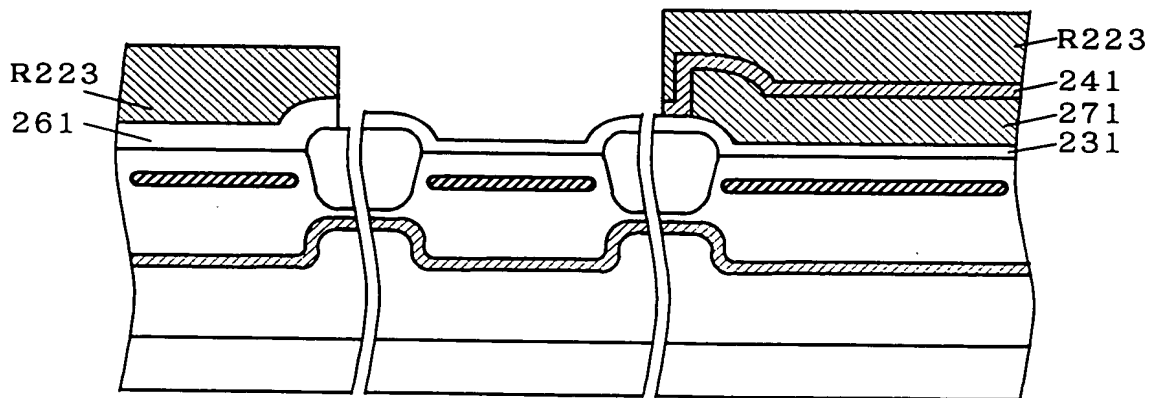
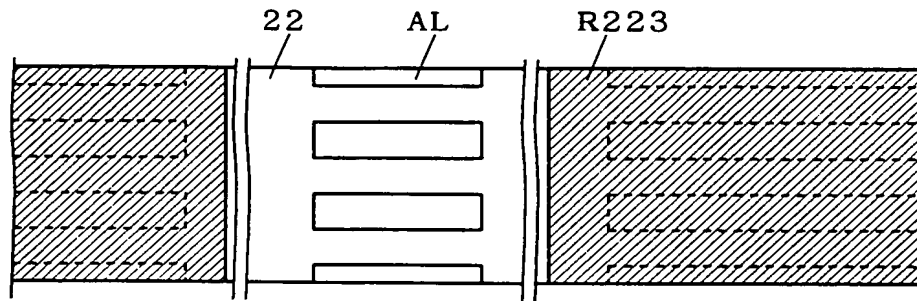


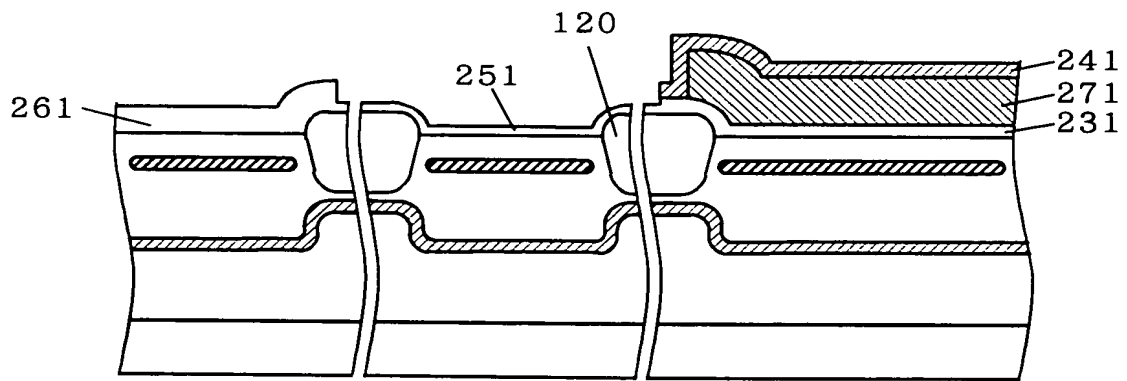
FIG. 91



F I G . 9 2



F I G . 9 3



F I G . 9 4

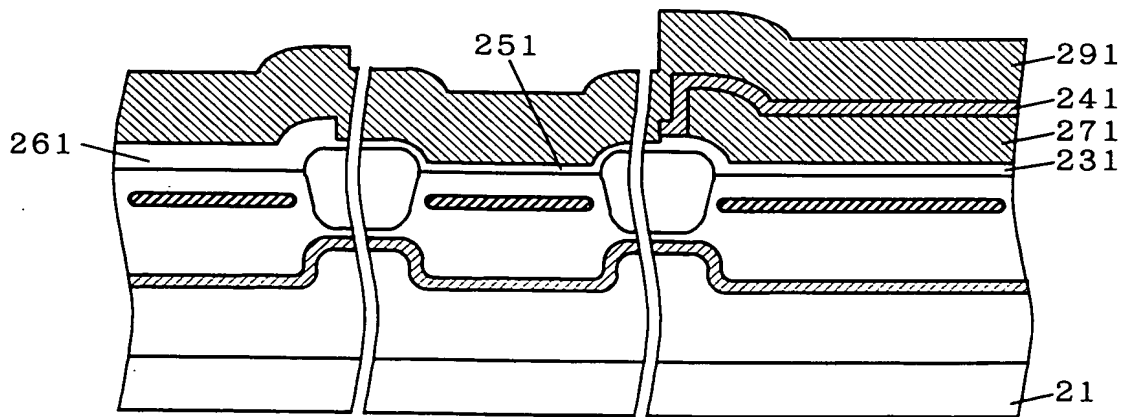


FIG. 95

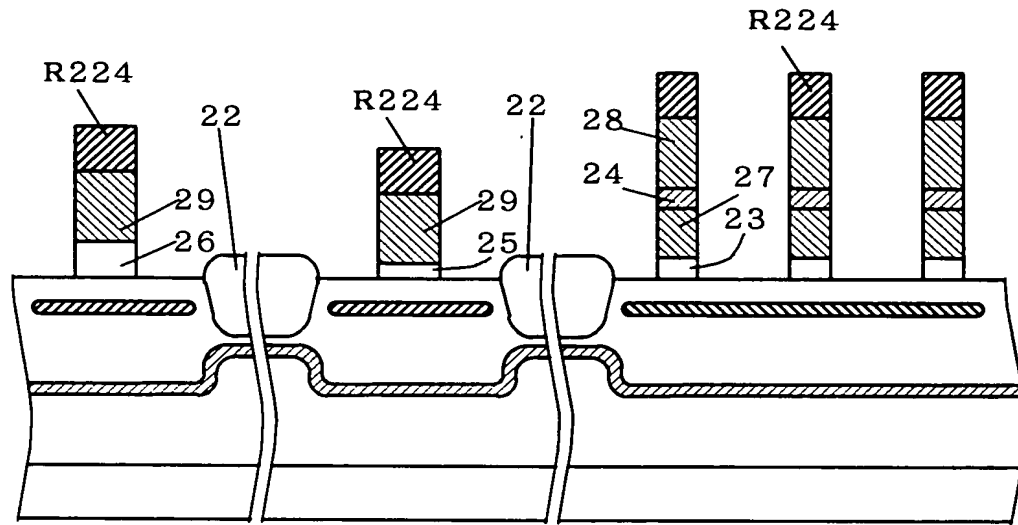


FIG. 96

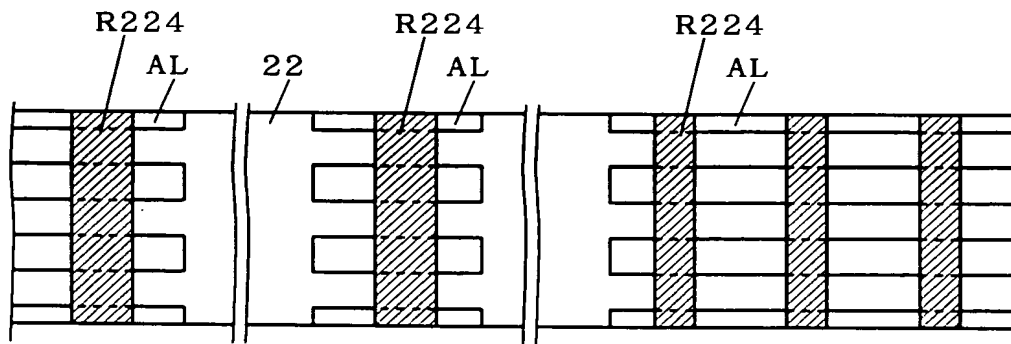
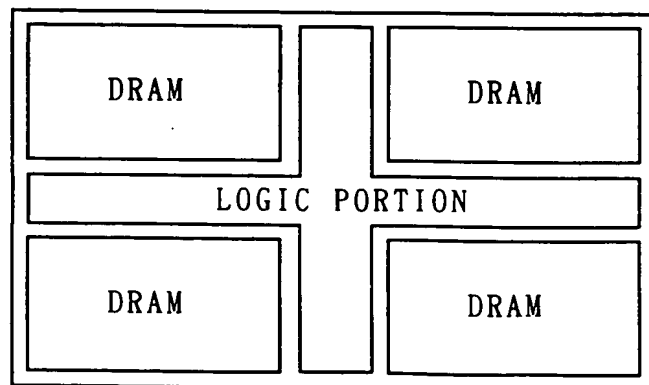


FIG. 97



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FIG. 99

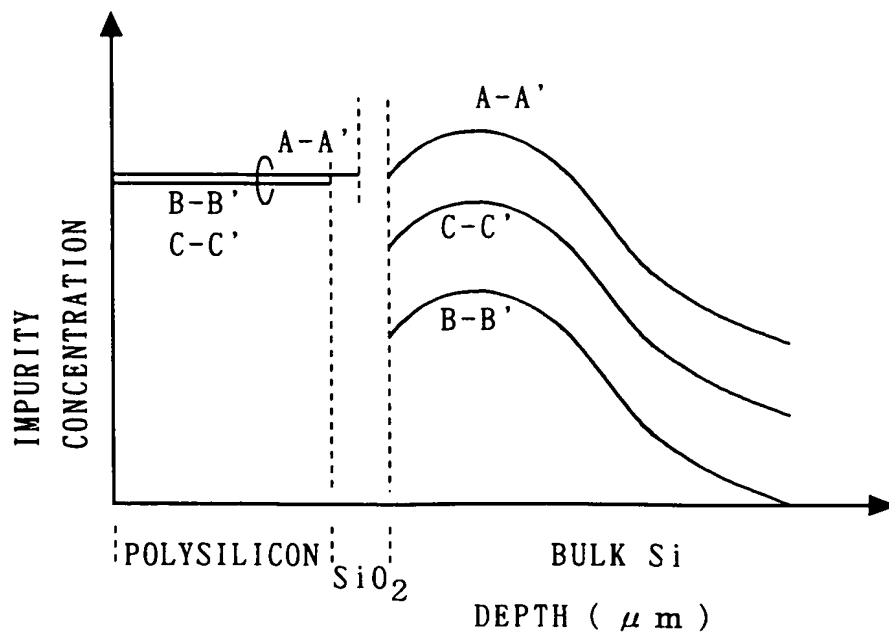


FIG. 100

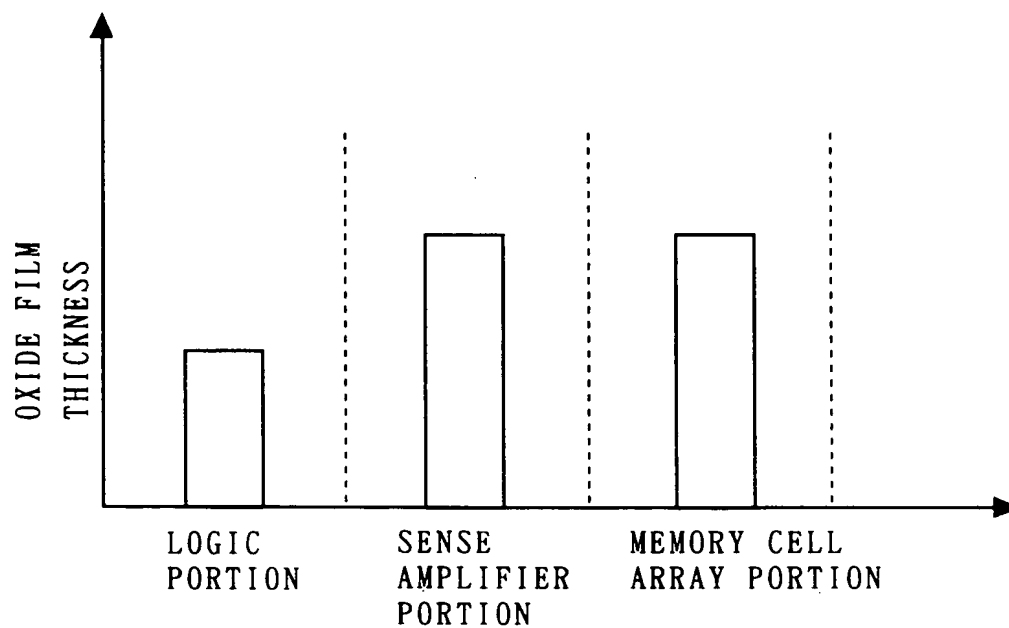


FIG. 101

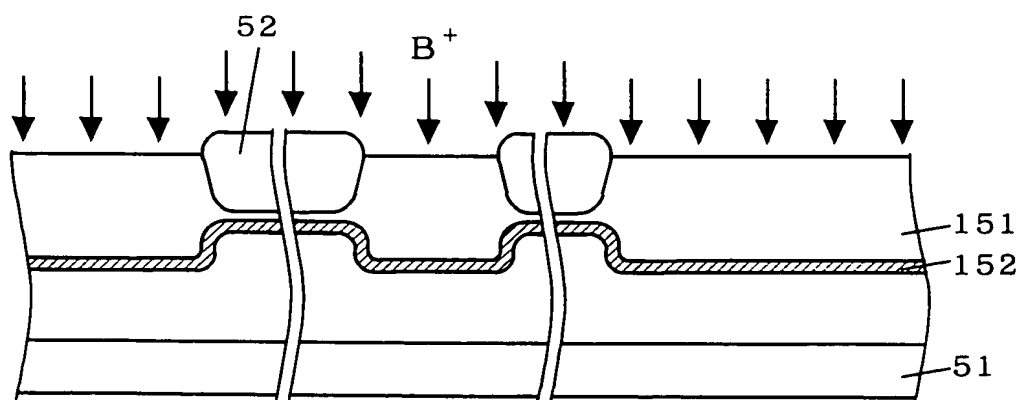


FIG. 102

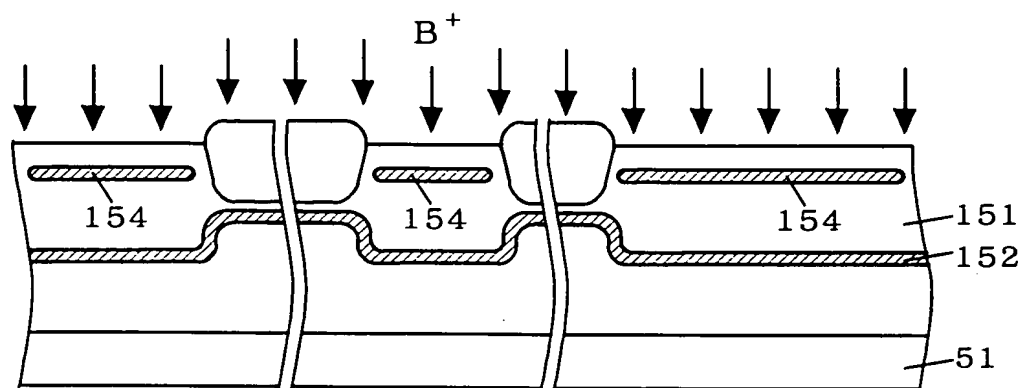


FIG. 103

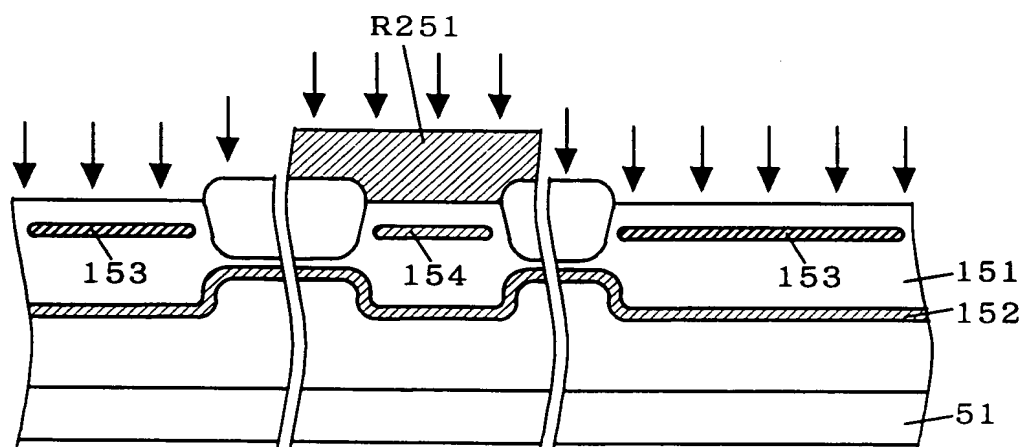


FIG. 104

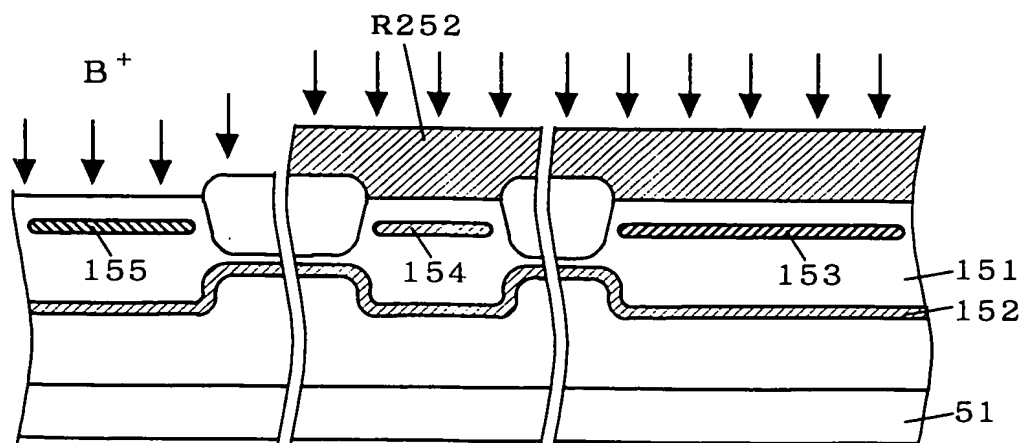


FIG. 105

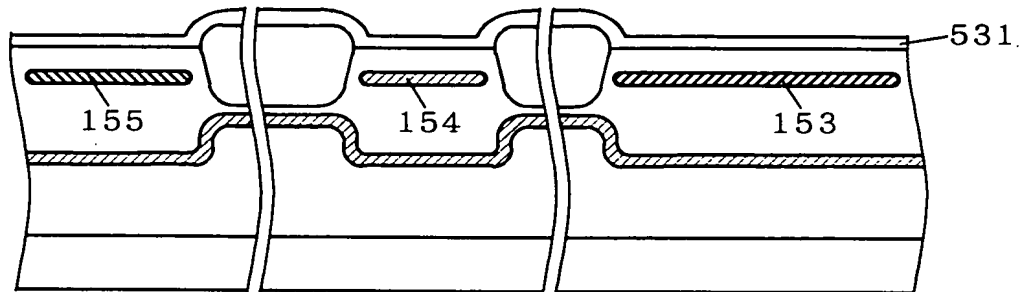


FIG. 106

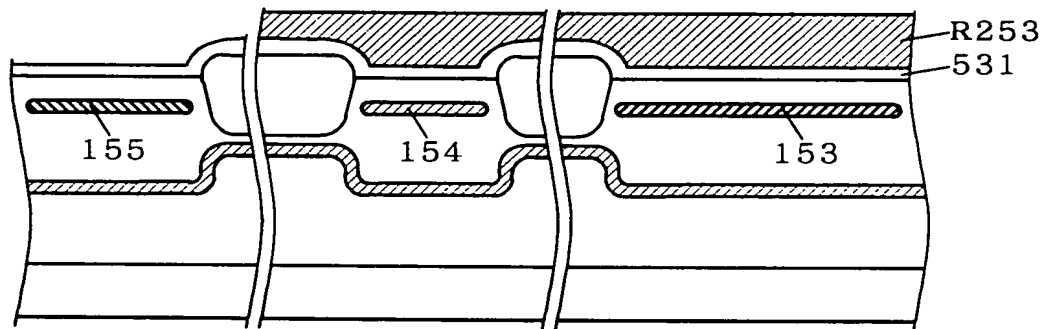
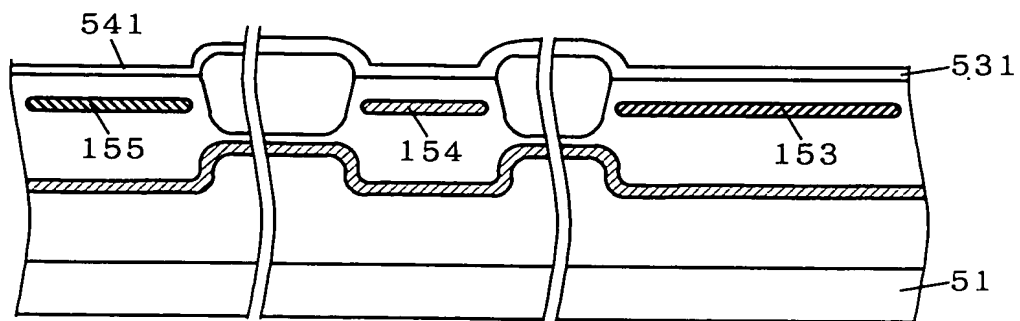


FIG. 107



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FIG. 108

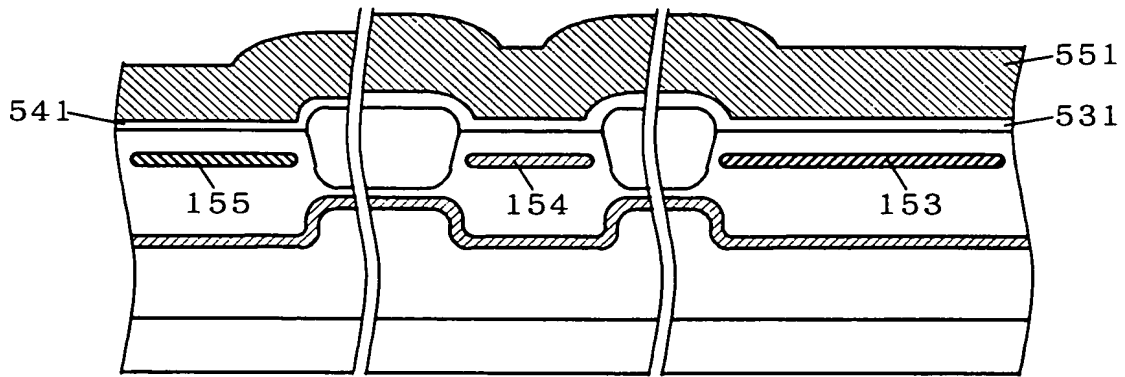


FIG. 109

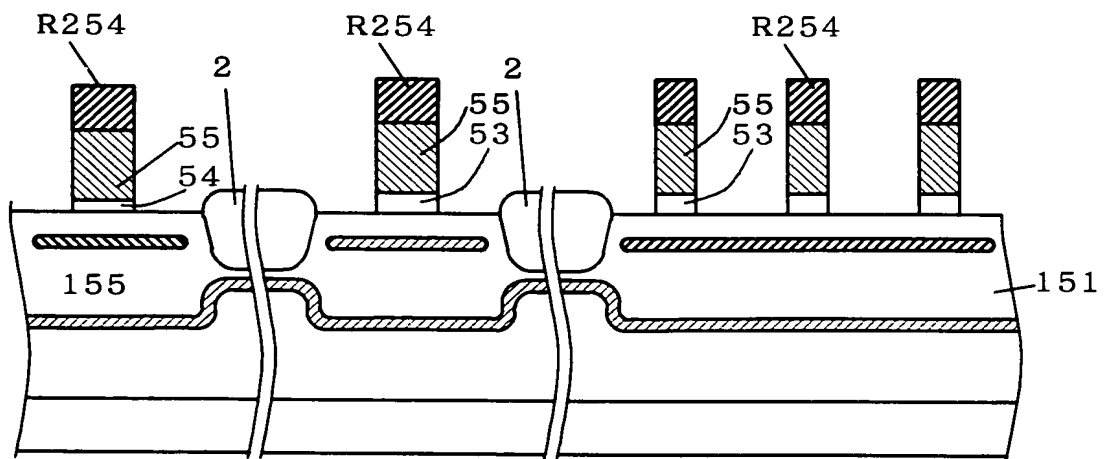


FIG. 110

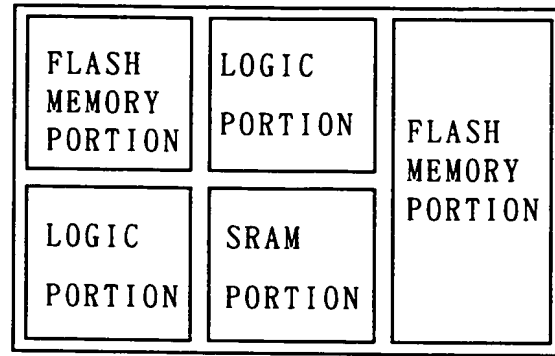


FIG. 111

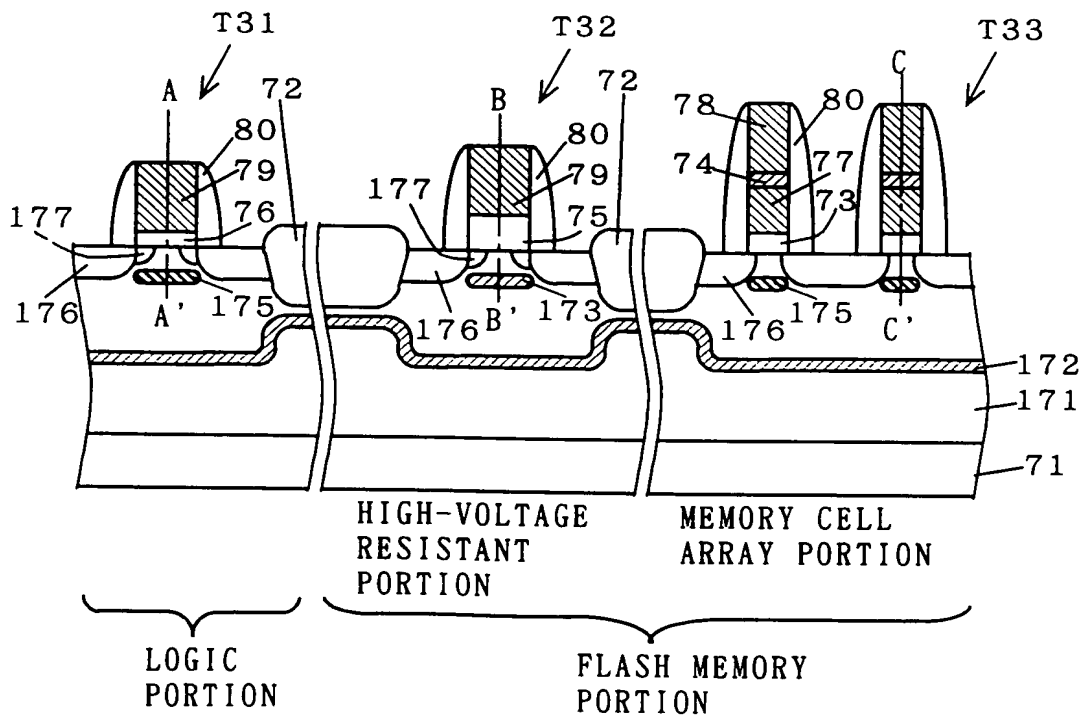


FIG. 112

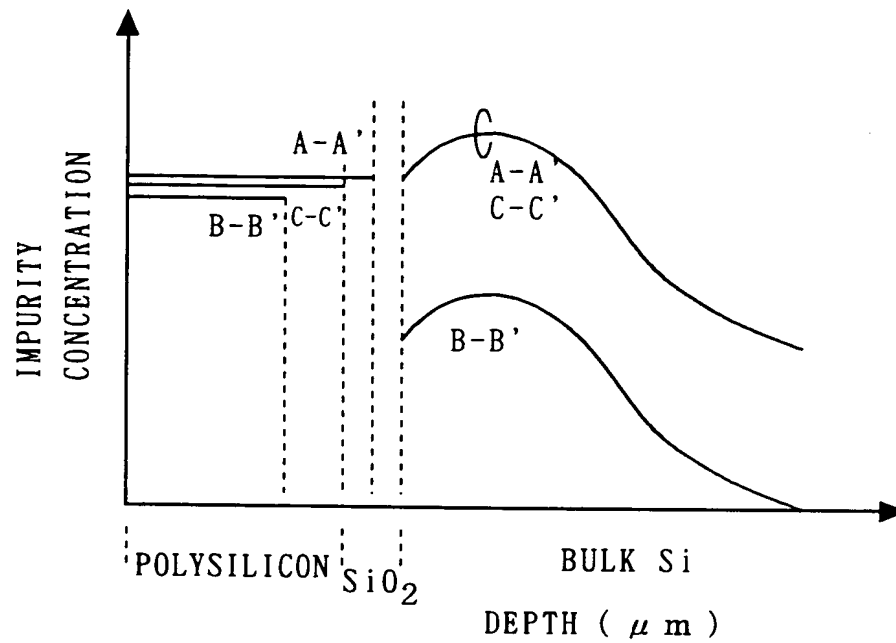


FIG. 113

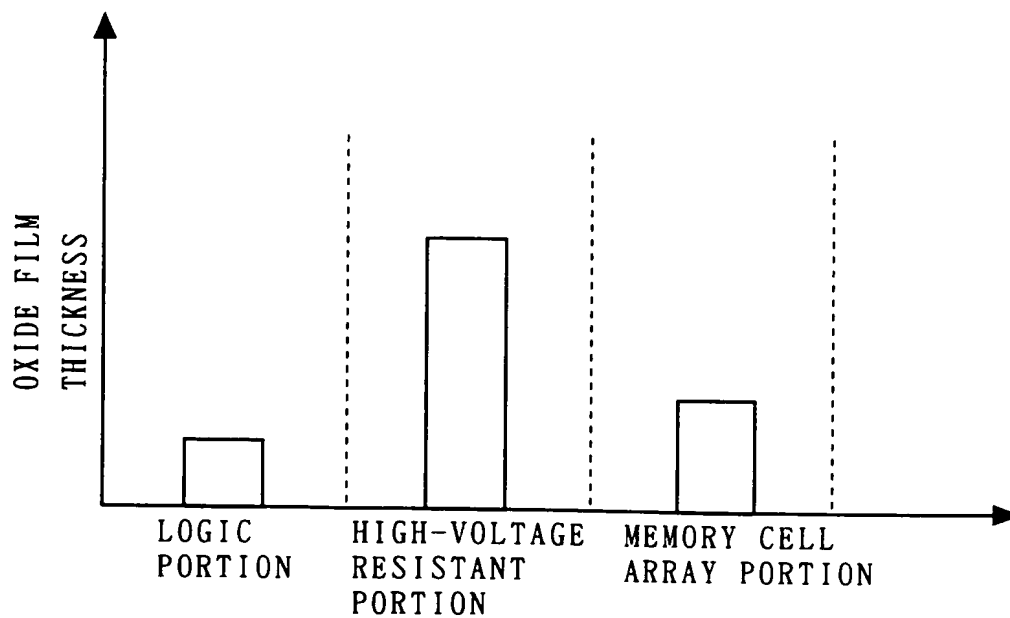


FIG. 114

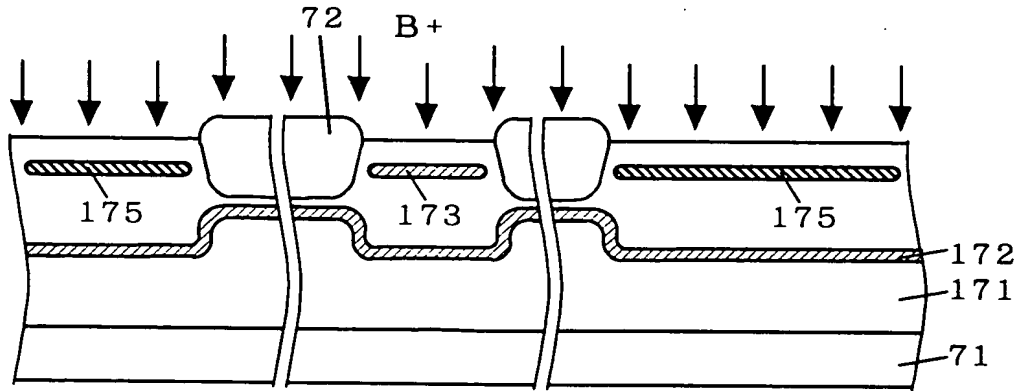


FIG. 115

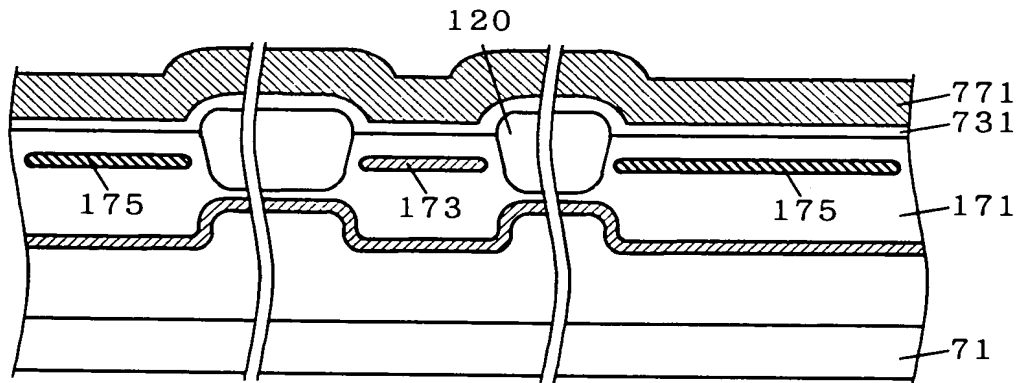
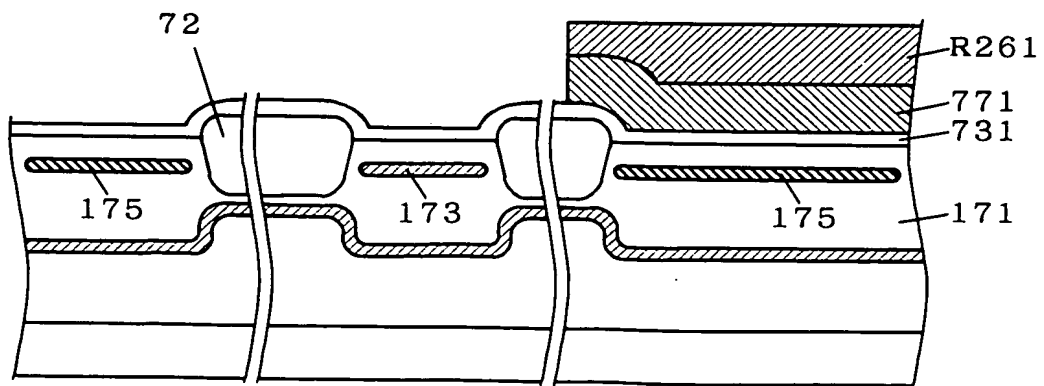


FIG. 116



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FIG. 117

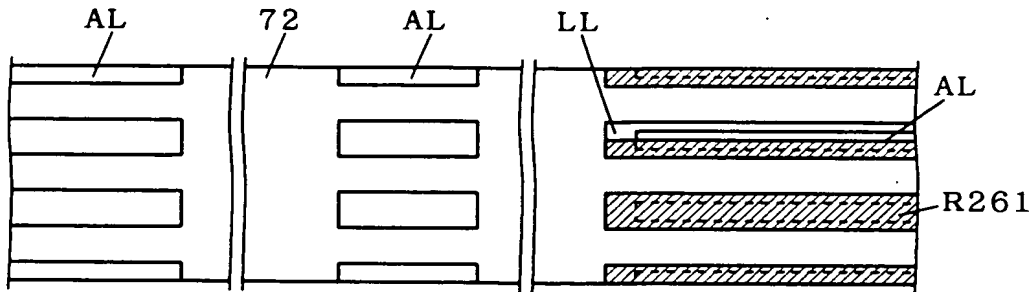


FIG. 118

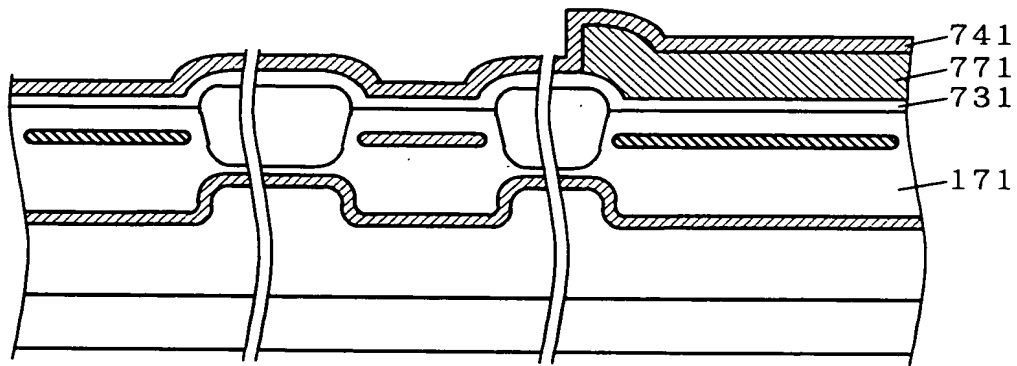
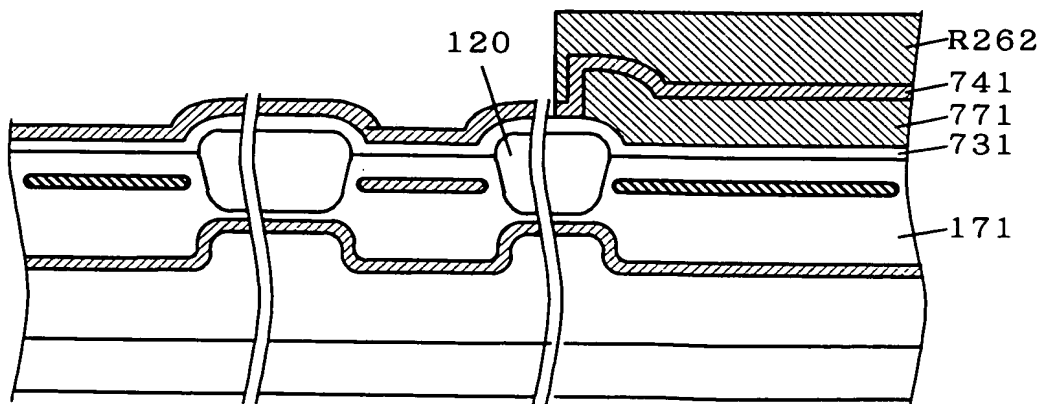


FIG. 119



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FIG. 120

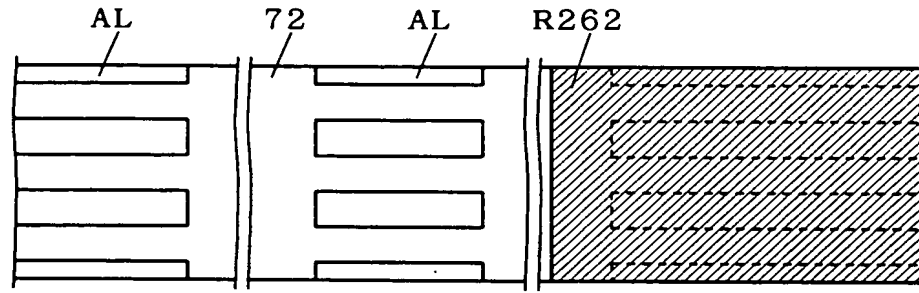


FIG. 121

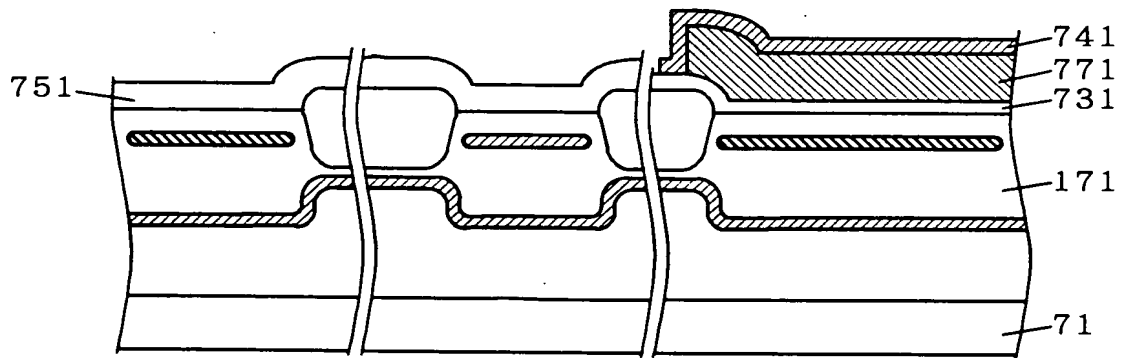


FIG. 122

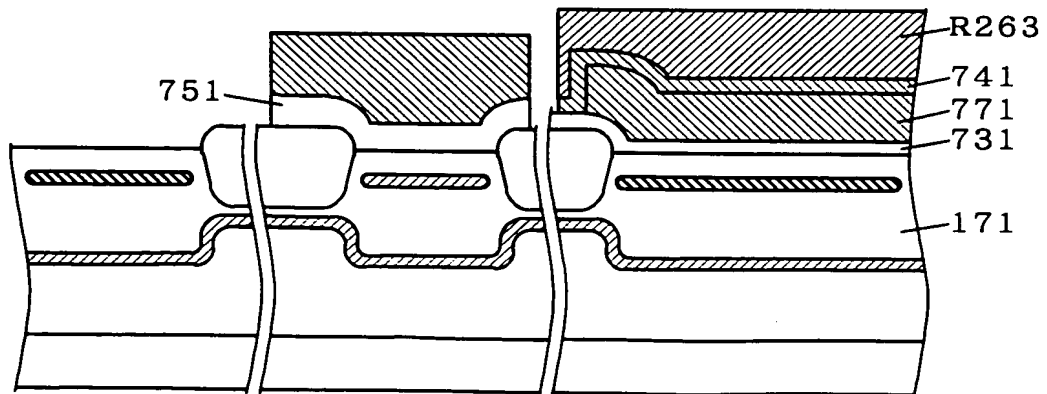


FIG. 123

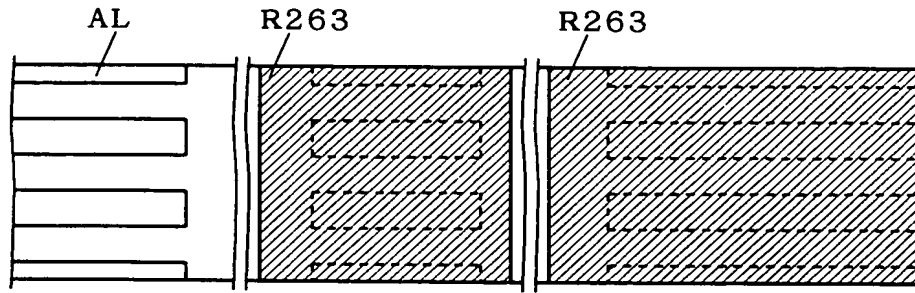


FIG. 124

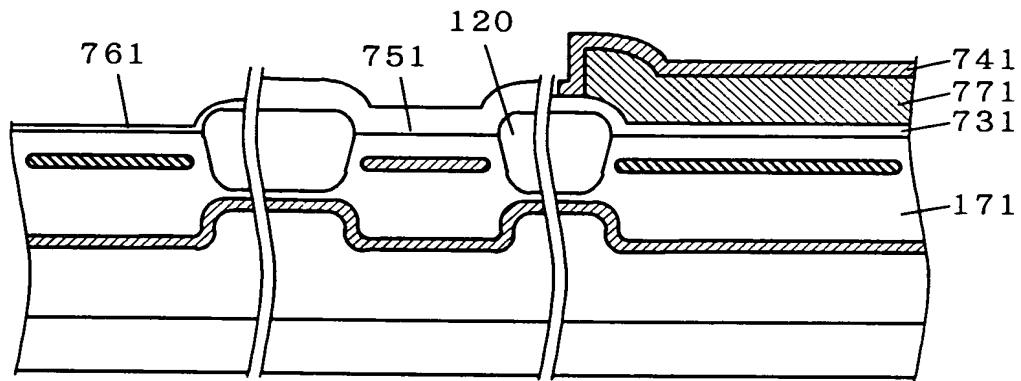


FIG. 125

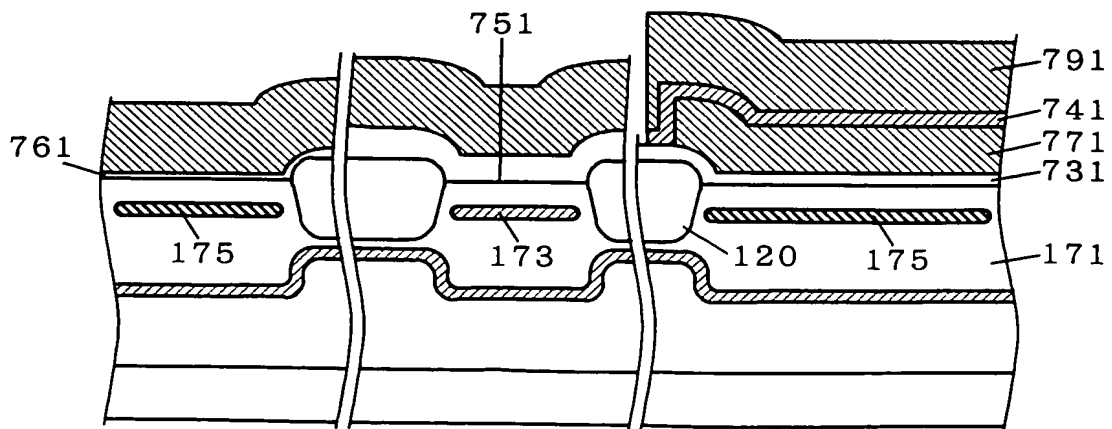


FIG. 126

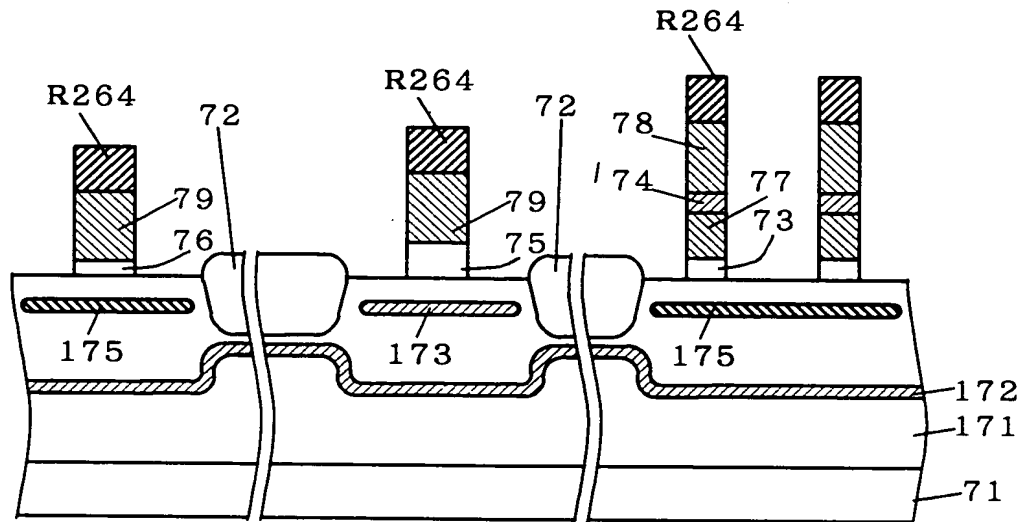


FIG. 127

